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Under the Chief Editorship of

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Preface

For an encyclopedia to attain the dignity of a standard work of reference, and to maintain that position, certain distinctive features are essential. The chief of these, outside variety of topics and accuracy, are independence, originality, progressiveness, convenience, lucidity, and brevity.

Independence and originality cannot be acquired without departing from the old-time methods of pedantic Latinity, unfamiliar scientific and technical terms, and diffusiveness, which, even in modern times, still seek to make knowledge the prerogative of a privileged class. Progressiveness is obtained by adopting up-to-date methods of organization, preparation, and production, and employing the ingenious principle of the expansive card-index, so that the latest data may be added until the very day of printing each edition. Convenience is found in the concise disposition of matter, and its arrangement in the form of compact volumes, of handy size for ready reference, in place of large and clumsy volumes, inconvenient to handle on account of their size and weight, which are by many supposed to represent the correct style for all encyclopedic works of reference. Lucidity and brevity are attained by the development, through the patient and laborious work of editors and compilers, of the fine and difficult art of condensation, in which the constant aim is to synthesize or crystallize the ever-growing mass of ancient and modern information into the concrete and attractive form of "race knowledge." This term was introduced by Professor Patton, of Princeton University, to distinguish the sifted and verified knowledge of a subject useful to the whole world from the detailed knowledge required by specialist or expert, and indicates a simple and concise handling which, while meeting all reasonable demands of scholarship, brings the profoundest learning within the comprehension of any attentive or thoughtful mind.

Since the beginning of the twentieth century there has been enormous activity among the publishers of leading nations to produce new encyclopedias, with the purpose of presenting the whole range of universal information according to modern standards and requirements, and of exhibiting the wonderful progress made in all departments of human knowledge and endeavor during the last quarter of a century. Praiseworthy arrangements were formulated to embody in these works the qualities enumerated above as essential to the production of a standard

work of reference. But, without exception, whether American or European, these remain in great part revised editions of old encyclopædias. In the American works, all based on European models, old matter, bodily lifted from the editions of preceding centuries, appears instead of a modern presentation of the subject; while even in the new matter supplied, all the old defects of elaborate and diffuse treatises, adapted only for the use of specialists, experts, or professional men, are retained along with the inconvenience of bulky form, to which the present small, handy volumes afford a delightful contrast.

In the making and distribution of encyclopædias, the need of a popular reference work of more compact form than those in ordinary use was made strikingly apparent both to editor and publishers, by the thousands of questions poured daily into the offices of magazines and journals, which, by arrangement, were referred to the encyclopædists for reply. In the majority of instances, the answers could have been found by reference to the venerable and ponderous types of encyclopædias. But these, wherever possessed, apparently had been relegated to the repose of library shelves, after the novelty of possession had worn off, while the trouble attendant on disturbing them for research was, apparently, greater than the slight inconvenience caused by writing and waiting for a brief answer to a simple question.

Under these circumstances, the conviction grew that a more convenient form of reference work was necessary for ordinary use, one which, if kept in the home on the reading-table, in the student's room on a handy shelf, or in the office or store on the work-desk, would become an indispensable and authoritative source of the information needed in connection with the current news of every-day life.

The ordinary skip method of reading newspapers, magazines, etc., is not conducive to self-culture, unless the reader is accustomed to regard this reading as a test of ignorance or knowledge. Then it becomes of inestimable service. Every day interesting information is given about places and subjects of which most people know very little and remember less from the knowledge acquired in school days. But a ready dip into a convenient reference work will put one in possession of the necessary information, and if the knowledge is acquired at the time when the subject is a topic of general discussion, it is likely to be permanently retained.

The "reference habit" is one of the most delightful and profitable that can be inculcated in young persons or cultivated by men and women for the worthy purpose of extending education throughout the whole of adult life. The more convenient the form of reference work at hand, the oftener it will be used, and when this can be done with the least

possible waste of time, the reference habit frequently changes the whole mental attitude, transforming an ordinary into a well-informed person.

With the conviction fully confirmed that such a convenient work of reference was urgently needed, the publishers, after mature deliberation, decided upon a striking departure and a revolution in the ordinary methods of encyclopedia making. Adopting a novel and original plan which would allow them to make use of the latest sources of information right up to the date of publication, they determined to build a work which should present the modern, solid, alive, and up-to-date American view of everything worth knowing in the fewest possible words; a work for the use of students and others which would fit them to take part in the conversation or enjoy the society of any well-informed circle.

The result, as embodied in the present work, exhibits the truly American characteristic of the exact knowledge sought; giving the pith of each subject, the essential facts, condensed to the plainest terms consistent with accuracy and clearness, and presented in a convenient form for ready reference. The salient features of each topic treated and its modern aspect follow the title and impress themselves at once upon eye and mind. Nothing of value is omitted. The old, stereotyped, pompous, so-called encyclopedic style gives way to a bright, modern presentment of knowledge and facts. Without needless wading through a mass of words, the reader immediately grasps the knowledge sought. Every subject is condensed or distilled to an essence of crystal clearness, in order to secure the compact and convenient size aimed at. Moreover, this plan of condensation or crystallization has allowed the inclusion of a greater number of titles than are to be found in the larger works of reference, for over 150,000 separate titles will be found in the various sections of this work, as compared with the 50,000 or 60,000 subjects in the ordinary encyclopedias.

The publishers have also aimed at making the work doubly attractive by reason of its illustrations. Text-cuts, half-tones and artistic three-color page plates, considerably beyond the plane of the average encyclopædic illustrations, contribute largely to a full understanding of the crisp descriptive matter. Special attention was also directed towards providing a clear type, easy for reading and restful to the eyes, instead of the small, fatiguing, eye-straining type, so frequently complained of in the larger forms of encyclopædic dictionaries.

The whole work, modern in conception and treatment, accurate, clear, concise, and up-to-date in a thoroughly practical sense, is a standard, ideal reference library, providing a short cut to all knowledge. No work on a similar scale of convenience has been attempted hitherto, and the publishers, gratified by its comprehensive scope and reliability,

feel confident that its compact form will make it, though small, a powerful rival for preferential and general use in school, home, store, or office, over the larger types of encyclopædias, gazetteers, or dictionaries.

The editor and publishers take the opportunity here to acknowledge their indebtedness to the contributors whose names appear on the title-page and appended to articles in the work.

They also extend their thanks to chief clerks and statisticians, to E. Dana Durand, Director of the Thirteenth Census; George E. Roberts, Esq., Director of the Mint; the Hon. James Wilson, Secretary, and George Wm. Hill, Esq., Editor-in-Chief, of the Department of Agriculture; and to numerous other federal and state officials, for special reports and important bulletins of latest information. They would also extend their thanks to the Librarian of Columbia University, New York City, and members of the library staff; to members of the staff of the Public Library, New York City; to many statesmen, scientists, authors, editors, and officers of corporations, companies, etc., for courteous information and suggestions which have enhanced the accuracy of the text and illustrated features of this Reference Library.

A

A, the first letter in the English and other alphabets, ultimately derived from the Phœnician, is traced by some to a character belonging to the Egyptian hieratic alphabet. Alpha, the Greek name of the letter, corresponds closely to aleph ("an ox"), the Phœnician name (see ALPHABET). The form which it has as a capital is the earliest. The sound which originally belonged to it, and which is still its characteristic sound except in English, is that heard in far, farther, palm, etc. A, in music, is the sixth note in the diatonic scale of **C**.

Aard-vark, (that is, "earth-pig"), a burrowing insect-eating animal of the order Edentata found in South

AARD-VARK.

Africa. The name "pig" is given to it from the shape of its snout. It is about 5 feet long, with a thin tapering tail, and long upright ears. It is nocturnal in its habits and very timid. Its flesh is considered a delicacy.

Aard-wolf, a singular carnivorous animal, first brought from South Africa by the traveler Delalande. Its size is about that of a full grown fox, which it resembles in both its habits and manners, being nocturnal, and constructing a subterraneous abode.

Aargau, or **Argovie**, a canton of Switzerland, bounded on the N. by the Rhine, which separates it from the grand-duchy of Baden, elsewhere by the cantons Zürich, Zug, Lucerne, Bern, Solothurn, and Basel; area, 543 square miles. Pop. (1900) 206,498, more than half of whom are Protestants. The capital is Aarau.

Aarhaus, a city of Denmark, capital of a division of the same name. It is situated on the Cattegat, and has an excellent and safe harbor, which admits vessels of light draught, the construction of such craft being the chief industry of the place. It has considerable manufacturing and is the centre of a large trade, being connected with the rest of the Jutland region by the State railway, and regular steamers to Copenhagen and Great Britain. The town is among the oldest in Denmark, and is noted as being the site of the first Christian church in the kingdom. Its bishop's see dates from 948. It has a cathedral commenced in 1201, which is a fair example of early 13th century Gothic architecture. Pop. in 1901, 51,909.

Aaron, son of Amram (tribe of Levi), elder brother of Moses, and divinely appointed to be his spokesman in the embassy to the court of Pharaoh. By the same authority, avouched in the budding of his rod, he was chosen the first high-priest. He was recreant to his trust in the absence of Moses upon the Mount, and made the golden calf for the people to wor-

ship. He died in the 123d year of his age, and the high-priesthood descended to his third son, Eleazar.

Aaron's rod, in architecture, is a rod like that of Mercury, but with only one serpent twined around it.

Ab, the eleventh month of the civil year of the Hebrews, and the fifth of their ecclesiastical year, which begins with the month Nisan. It answers to the moon of July, that is, to part of our month of July and to the beginning of August; it consists of 30 days.

Abaca, or MANILA HEMP, a strong fibre yielded by the leaf-stalks of a kind of plantain (Musa textilis) which grows in the Indian Archipelago, and is cultivated in the Philippines. The outer fibres of the leaf-stalks are made into strong ropes, the inner into various fine fabrics.

Abaco, GREAT and LITTLE, two isof the Bahamas group.

Abacus, a Latin term applied to an apparatus used by the Chinese for facilitating arithmetical operations, consisting of a number of parallel cords or wires, upon which balls or beads are strung, the uppermost wire

ABACUS.

being appropriated to units, the next to tens, &c.—In classic architecture it denotes the tablet forming the upper member of a column, and supporting the entablature. In Gothic architecture the upper member of a column from which the arch springs.

Abaddon,, in the Bible, and in every rabbinical instance, means the angel of death, or the angel of the abyss or "bottomless pit."

Abalone, a Californian name for the ear-shells or sea-ears, a gastropod of the family Haliotidæ. The animal feeds on sea-weeds, creeping along the rocks. When in repose it draws all its parts under the saucer-like shell, and clings like a limpet to whatever it is attached. The Chinese use the body for food, and the shell is employed in making buttons, inlaying, and all purposes for which mother of pearl is used.

Abatis, or **Abattis,** in military affairs, a kind of defense made of felled trees. In sudden emergencies, the trees are merely laid lengthwise with the branches pointed outward to prevent the approach of the enemy.

Abba, Guiseppe Cesare, an Italian poet; born in 1838 at Cairo Montenotte. He took part in the expedition of Garibaldi into Sicily in 1860, which he celebrated in his poem "Arrigo."

Abbas Pasha Hilmi, Khedive of Egypt, born in 1874, oldest son of the Khedive Mehemet-Tewfik. He studied at the Theresianum at Vienna. On his father's death in 1892 he became Khedive. He has given an example to other rulers by having only one wife.

Abbas I., surnamed the GREAT; born in 1557, was the seventh Shah or King of Persia of the dynasty of the Cufis. He died Jan. 27, 1628, having reigned over Persia 41 years.

Abbassides, the name of a race who possessed the caliphate for 524 years. There were 37 caliphs of this race who succeeded one another without interruption. They drew their descent from Abbas-ben-Abd-el-Motallib, Mahomet's uncle. Their empire terminated in Mostazem, who fell in battle in 1257.

Abbé, originally the French name for an abbot, but often used in the general sense of a priest or clergyman.

Abbe, Cleveland, an American meteorologist, born in New York city, Dec. 3, 1838. Since 1871 he has been meteorologist in the Weather Bureau.

Abbey, a monastery or religious community of the highest class, governed by an abbot, assisted generally by a prior, sub-prior, and other subordinate functionaries; or, in the case of a female community, superintended by an abbess. Abbeys or monasteries first arose in the East. The abbeys in England were wholly abolished by Henry VIII. at the Reformation. In the United States the word "monastery" is generally used for male religious houses; "convent" for female.

Abbey, Edwin Austin, an American artist, born in Philadelphia, April 1, 1852. Besides illustrating many books and painting a number of notable pictures, he designed a series of

paintings for the walls of the Boston Public Library, on the subject of the "Holy Grail." He was commissioned by King Edward VII. to paint the coronation scene in Westminster Abbey.

Abbot, the superior of a monastery of monks erected into an abbey or priory. Abbot is also a title given to others besides the superiors of monasteries; thus, bishops, whose sees were formerly abbeys, are called abbots. Among the Genoese, the chief magistrate of the republic formerly bore the title of "Abbot of the People."

Abbot, Ezra, an American Greek scholar, born at Jackson, Me., April 28, 1819. He was one of the American committee of New Testament revisers. He died at Cambridge, Mass., March 21, 1884.

Abbot, Henry Larcom, an American military engineer, born in Beverly, Mass., Aug. 13, 1831; graduated at the United States Military Academy in 1854; became brevet Major-General of Volunteers in the Civil War, and subsequently Colonel and Chief of Engineers of the United States army, and was retired in 1895.

Abbot, Willis John, an American journalist and author, born in Connecticut in 1863. With the exception of a "Life of Carter Harrison," his works consist principally of popular histories for young people. His editorial writings are graceful and cultured in style, and powerful in expression.

Abbotsford, the home of Sir Walter Scott, situated on the S. bank of the Tweed a few miles above Melrose. At the time Scott bought the estate in 1811, it was called Clarty Hole, but his antiquarian spirit moved him to connect the place with the old monks of Melrose Abbey, who formerly crossed the river near the house. He retained all of the ancient Scotch architecture that could be used, and enlarged the building to its present dimensions. The property remains in the possession of the author's descendants to the fourth generation.

Abbott, Charles Conrad, an American archæologist, born at Trenton, N. J., 1843. He has discovered palæolithic human remains in the Delaware valley, and shown the likelihood of the early existence of the Eskimo race as far south as New Jersey. A large collection of archæological specimens made by him is now in the Peabody Museum, Cambridge, Mass., where he was stationed in 1876-1889.

Abbott, Edwin Abbott an English theologian and Shakespearean scholar, born in London, Dec, 20, 1838. From the City of London School he passed, in 1857, to St. John's College, Cambridge.

Abbott, Emma, American dramatic soprano, born in Chicago, Ill., in December, 1849. After years of hard work, she went abroad in 1872 and studied with Sangiovanni at Milan, and Delle Sedie in Paris, and afterward sang in opera with great success. In 1878 she married E. J. Wetherell, of New York. She died in Salt Lake City, Utah, Jan. 5, 1891.

Abbott, Jacob, an American writer of juvenile stories, born in Hallowell Me., Nov. 14, 1803; died Oct. 31, 1879. He graduated from Bowdoin College, studied for the ministry, was professor of mathematics at Amherst for four years, and in 1834 established the Eliot Church in Roxbury, after having been principal of a girls' school in Boston. After 1839 he devoted his whole time to literature and wrote and published more than 200 volumes, among them the famous Rollo Books. In collaboration with his brother John, he wrote a number of histories for juvenile readers, with whom he was a great favorite. His works have a considerable sale in the first years of the 20th century.

Abbott, Sir John Joseph Caldwell, a Canadian statesman, born in 1821. He took an active part in the Senate, leading the Conservative side. On the death of Sir John Macdonald, in 1891, he become Premier, resigning in the following year on account of ill-health. He died in 1893.

Abbott, John Stevens Cabot, an American author, born at Brunswick, Me., Sept. 18, 1805; brother of Jacob Abbott; author of "History of Napoleon; "History of the Civil War;" "History of Frederick the Great;" and numerous other works on kindred themes. He died, 1877.

Abbott, Lyman, an American clergyman, born at Roxbury, Mass., Dec. 18, 1835. At first a lawyer, he

was ordained minister of the Congregational Church in 1860. After a pastorate of five years, in Indiana, he went to New York, and rose rapidly to distinction through his contributions to periodical literature. He was pastor of Plymouth Church, Brooklyn, in 1888–1898, being the immediate successor of Henry Ward Beecher. He was associated with Mr. Beecher in the editorship of the "Christian Union," and is now editor of "The Outlook," formerly the "Christian Union."

Abbott, Russell Bigelow, an American educator; born in Brookville, Ind., Aug. 8, 1823; was graduated at the University of Indiana in 1847; and received the degree of D. D. from Galesville University in 1884. After serving for several years as principal of public schools in Muncie and New Castle, Ind., and of Whitewater Presbyterian Academy, he was ordained in the Presbyterian Church in 1857; held pastorates in Brookville, Ind., seven years, in Knightstown, Ind., two years, and in Albert Lea, Minn., 15 years; and, founding Albert Lea College in the latter city, became its president in 1884. Dr. Abbott served as moderator of the Presbyterian Synod of Minnesota and several times as a delegate to the General Assembly of his church.

Abbreviations, or "shortenings," are used in writing to save time and space, or, it may be, to ensure secrecy. In the following list most of the abbreviations that are likely to be met with by modern readers are alphabetically arranged:

A. or Ans.— Answer.
A. A. G.—Assistant Adjutant-General.
A. A. A. G.—Acting Assistant Adjutant-General.
A. A. P. S.— American Association for the Promotion of Science.
A. A. S.—*Academiæ Americanæ Socius*, Fellow of the American Academy (of Arts and Sciences).
A. A. S. S.—*Americanæ Antiquarianæ Societatis Socius*, Member of the American Antiquarian Society.
A. B.—Able-bodied seaman.
A. B.—*Artium Baccalaureus*, Bachelor of Arts.
A. B. C. F. M.— American Board of Commissioners for Foreign Missions.
Abl.— Ablative.
Abp.— Archbishop.
Abr.— Abridgment, or Abridged.
A. B. S.— American Bible Society.
A. C.— *Ante Christum*, before the birth of Christ.
Acad.— Academy.
Acad. Nat. Sci.— Academy of Natural Sciences.
Acc.— Accusative.
Act.— Active; Acting.
Acct.— Account.
A. C. S.— American Colonization Society.
Advt.— Advertisement.
A. D.— *Anno Domini*, in the year of the Lord.
A. D. C.—Aide-de-camp.
Adj.— Adjective.
Adjt.— Adjutant.
Adjt.-Gen.— Adjutant-General.
Ad lib.— *Ad libitum*, at pleasure.
Adm.— Admiral; Admiralty.
Admr.— Administrator.
Admx.— Administratrix.
Ad v.— *Ad valorem*, at (or on) the value.
Adv.—Adverb.
Æt.—*Ætatis*, of age; aged.
A. F. B. S.— American and Foreign Bible Society.
Afr.— African.
A. G.— Adjutant-General.
Agl. Dept.— Department of Agriculture.
Agr.—Agriculture.
A. G. S. S.— American Geographical and Statistical Society.
Agt.— Agent.
A. H.—*Anno Hegiræ*, in the year of the Hegira.
A. H. M. S.— American Home Missionary Society.
Al.— Aluminium.
Ala.— Alabama.
Alas.— Alaska.
Alb.— Albany.
Ald.— Alderman.
Alex.— Alexander.
Alf.— Alfred.
Alg.— Algebra.
Alt.— Altitude.
A. M.— *Anno mundi*, in the year of the world.
A. M.— *Ante meridiem*, before noon; morning.
A. M.— *Artium Magister*, Master of Arts.
Am. Ass. Adv. Sci.— American Association for the Advancement of Science.
Am. Assn. Sci.— American Association for the Advancement of Science.
Amb.— Ambassador.

Amer.— American.
Amer. Acad.— American Academy.
A. M. E. Z.— African Methodist Episcopal Zion.
Amt.— Amount.
An.— *Anno*, in the year.
An. A. C.— *Anno ante Christum*, in the year before Christ.
Anal.— Analysis.
Ann.— Annales; Annals.
Anat.— Anatomy.
Anc.— Ancient; anciently.
And.— Andrew.
Ang.-Sax.— Anglo-Saxon.
Anon.— Anonymous.
Ans.— Answer.
Ant., or Antiq.— Antiquities.
Anth.— Anthony.
A. O. S. S.—*Americanæ Orientalis Societatis Socius*, Member of the American Oriental Society.
Ap.— Apostle; Appius.
Ap.— *Apud*, in writings of; as quoted by.
Apo.— Apogee.
Apoc.— Apocalypse.
Apocr.— Apocrypha.
App.— Appendix.
Apr.— April.
Aq.— Water (*aqua*).
A. Q. M.— Assistant Quartermaster.
A. Q. M. G.— Assistant Quartermaster-General.
A. R.— *Anno regni*, year of the reign.
A. R. A.— Associate of the Royal Academy.
Ara.— Arabic.
Arch.— Architect; Architecture.
Archd.— Archdeacon.
Ari.—Arizona.
Arith.— Arithmetic.
Ark.— Arkansas.
Arr.— Arrive; Arrival.
A. R. S. A.— Associate of the Royal Scottish Academy.
A. R. S. S.—*Antiquariorum Regiæ Societatis Socius*, Fellow of the Royal Society of Antiquaries.
Art.— Article.
Artil.— Artillery.
A.-S.— Anglo-Saxon.
A. S., or Assist. Sec.— Assistant Secretary.
A. S. A.— American Statistical Association.
Ass., Assn.— Association.
A. S. S. U.— American Sunday-School Union.
A. T. S.— American Tract Society.
Atty.— Attorney.
Atty.-Gen.— Attorney-General.
A. U. A.— American Unitarian Association.
Aub. Theol. Sem.—Auburn Theological Seminary.
A. U. C.—*Anno urbis conditæ*, or *ab urbe condita*, in the year from the building of the city (Rome).
Aug.— August.
Aus.— Austria; Austrian.
Auth. Ver., or A. V.— Authorized Version (of the Bible).
Av.— Average; Avenue.
Avdp.— Avoirdupois.
Avoir.— Avoirdupois.
A. Y. M.—Ancient York Masons.

B.— Born.
B. A.— Bachelor of Arts.
Bal.— Balance.
Balt.— Baltimore.
Bapt.— Baptist.
Bar.— Barometer.
Bart. or bt.— Baronet.
Bbl.— Barrel.
B. C.— Before Christ.
B. C. L.— Bachelor of Civil Law.
B. D.—*Baccalaureus Divinitatis*, Bachelor of Divinity.
Belg.— Belgic; Belgian; Belgium.
Benj.— Benjamin.
B. I.— British India.
Bib.— Bible; Biblical.
Biog.— Biography; Biographical.
Bisc.— Biscayan.
B. LL.— *Baccalaureus Legum*, Bachelor of Laws.
B. LL.— Same as LL. B.
Bls.— Bales.
B. M.— *Baccalaureus Medicinæ*, Bachelor of Medicine.
B. M.— Same as M. B.
Bot.— Botany.
Bp.— Bishop.
Br.— British.
Br. Univ.— Brown University.
Braz.— Brazil; Brazilian.
Brig.— Brigade; Brigadier.
Brig.-Gen.— Brigadier-General.
Brit. Mus.— British Museum.
Bro.— Brother.
B. S.— Bachelor in the Sciences.
Bush.— Bushel; Bushels.
B. V.— *Bene vale*, farewell.

C.— Cent.
C.— Consul.
C., or Cels.— Celsius's Scale for the thermometer.
C., or Cent.— *Centum*, a hundred; Century.
C., Ch., or Chap.— Chapter.

Ca. sa.— *Capias ad satisfaciendum*, a legal writ.
C. A.— Chief Accountant; Commissioner of Accounts.
Ca. resp.— *Capias ad respondendum*, a legal writ.
Cæt. par.— *Cæteris paribus*, other things being equal.
Cal.—California; Calends.
Cam., Camb.— Cambridge.
Can.— Canon.
Cant.— Canticles.
Cantab.— Of Cambridge (*Cantabrigiensis*).
Cantuar.— Of Canterbury.
Cap. or C.— *Caput, capitulum*, chapter.
Caps.— Capitals.
Capt.— Captain.
Capt.-Gen.— Captain-General.
Car.— Carat.
Card.— Cardinal.
Cash.— Cashier.
C. B.— Cape Breton.
C. B.— Companion of the Bath.
C. C.— County Commissioner; County Court.
C. C.— Cubic centimeter.
C. C. P.— Court of Common Pleas.
Cd.— Cadmium.
C. D. V.— *Carte-de-Visite*.
C. E.— Civil Engineer.
C. E.— Christian Endeavor (Young People's Society of).
Cel., or Celt.— Celtic.
Cent.— Centigrade, a scale of 100° from freezing to boiling.
Cert.— Certify.
Certif.— Certificate.
C. G.— Commissary-General; Consul-General.
C. G. H.— Cape of Good Hope.
C. H.— Court house.
Ch.— Church; Chapter; Charles.
Chald.— Chaldea; Chaldean; Chaldaic.
Chanc.— Chancellor.
Chap.— Chapter.
Chem.— Chemistry.
Ches.— Chesapeake.
Chic.— Chicago.
Chr.— Christ; Christian.
Chr.— Christopher.
Chron.— Chronicles.
Cin.— Cincinnati.
Circ.— Circuit.
Cit.— Citation; Citizen.
C. J.— Chief-Justice.
Cl.— Chlorine.
Clk.— Clerk.
C. M.— Common Meter.
C. M. G.— Companion of the Order of St. Michael and St. George.
Co.— Company; county.
Coch., or Cochl.— A spoonful (*cochleare*).
C. O. D.— Cash (or collect) on delivery.
Col.— Colorado; Colonel; Colossians.
Coll.— Collector; Colloquial; College; Collection.
Com. Arr.— Committee of Arrangements.
Com.— Commerce; Committee; Commissioner; Commodore.
Com. & Nav.— Commerce and Navigation.
Comdg.— Commanding.
Comm.— Commentary.
Comp.— Compare; Comparative; Compound; Compounded.
Com. Ver.— Common Version.
Con.— *Contra*, against; in opposition.
Con. Cr.— Contra, credit.
Conch.— Conchology.
Con. Sec.— Conic Sections.
Confed.— Confederate.
Cong.— Congress.
Conj., or conj.— Conjunction.
Congl.— Congregational; Conglomerate.
Conn., or Ct.— Connecticut.
Const.— Constable; Constitution.
Cont.— Contra.
Cop., or Copt.— Coptic.
Corn.— Cornwall; Cornish.
Cor.— Corinthians.
Cor. Mem.— Corresponding Member.
Cor. Sec.— Corresponding Secretary.
Coss.— Consuls (*consules*).
C. P.— Common Pleas.
C. P.— Court of Probate.
C. P. S.— *Custos Privati Sigilli*, Keeper of the Privy Seal.
Cr.— Chromium.
Cr.— Creditor; credit.
C. R.— *Custos Rotulorum*, Keeper of the Rolls.
Cs.— Cases.
C. S.— Court of Sessions.
C. S.— *Custos Sigilli*, Keeper of the Seal.
C. S. A.— Confederate States of America; Confederate States Army.
Csk.— Cask.
C.S.B.— Bachelor of Christian Science.
C. S. D.— Doctor of Christian Science.
C. S. N.— Confederate States Navy
C. Theod.— *Codice Theodosiano*, in the Theodosian Code.
Ct.— Court.
Cts — Cents.

Cub.— Cubic.
Cub. Ft.— Cubic Foot.
Cur.— Currency.
C. W.— Canada West.
Cwt.— Hundredweight.
Cyc.— Cyclopedia.

D.— Died.
D.— Five hundred.
D.— Penny; pence (*denarius*).
D. A. G.— Deputy Adjutant-General.
Dak.— Dakota.
Dan.—Daniel; Danish.
Dat.— Dative.
D. B. or Domesd. B.— Domesday-Book.
D. C.— District of Columbia.
D. C. L.— Doctor of Civil Law.
D. C. S.— Deputy Clerk of Sessions.
D. D.— *Divinitatis Doctor*, Doctor of Divinity.
D. D. S.— Doctor of Dental Surgery.
Dea.— Deacon.
Dec.— December; Declination.
Dec. of Ind.— Declaration of Independence.
Def.— Definition.
Def., Deft.— Defendant.
Deg.— Degree; degrees.
Del.— Delaware; Delegate.
Del., or del.— *Delineavit*, he (or she) drew it.
Dem.— Democrat; Democratic.
Dep.— Deputy.
Dept.— Department.
Deut.— Deuteronomy.
D. F.— Defender of the Faith.
D. G.— *Dei gratia*, by the grace of God.
D. G.— *Deo gratias*, thanks to God.
D. H.— Dead-head.
Diam.— Diameter.
Dict.— Dictionary; Dictator.
Dim.— Diminutive.
Diosc.— Dioscarides.
Disc.— Discount.
Diss.— Dissertation.
Dist.— District.
Dist.-Atty.— District-Attorney.
Div.— Division.
D. L. O.— Dead-Letter Office.
D M.— Doctor of Music.
Do.— *Ditto*, the same.
Doc.— Document.
Dols.— Dollars.
D. O. M.— *Deo optimo maximo*, to God, the best, the greatest.
Doz.— Dozen.
D. P.— Doctor of Philosophy.
Dpt.— Department.
Dr.— Debtor; Doctor.
Dr.— Drams; Drachms.
D. Sc.— Doctor of Science.
D. T.— Doctor of Theology (*doctor theologiæ*).
Duo.—Duodecimo, twelve folds.
D. V.— *Deo volente*, God willing.
Dwt.— Pennyweight.
Dyn.— Dynamics.

E.— East.
E. by S.— East by South.
E. & O. E.— Errors and omissions excepted.
E. B.— English Bible.
Eben.— Ebenezer.
Ebor.—York (*Eboracum*).
Eccl.— Ecclesiastes.
Ecclus.— Ecclesiasticus.
E. D.— Eastern District.
Ed.— Editor; Edition.
Edin.— Edinburgh.
Edm.— Edmund.
Edw.— Edward.
E. E.— Errors excepted.
E. E. T. S.— Early English Text Society.
E. G.— *Exempli gratia*, for example.
E. G.— *Ex grege*, among the rest.
E. Fl.— Ells Flemish.
E. Fr.— Ells French.
E. I.— East Indies or East India.
E. I. C., or E. I. Co.— East India Company.
E. I. C. S.— East India Company's Service.
Eliz.— Elizabeth.
E. Lon.— East longitude.
E. M.— Mining Engineer.
Emp.— Emperor; Empress.
Encyc.— Encyclopedia.
Eng. Dept.— Department of Engineers.
Eng.— England; English.
E.-N.-E.— East-North-East.
Ent., Entom.— Entomology.
Env. Ext.— Envoy Extraordinary.
E. o. w.— Every other week.
Ep.— Epistle.
Eph.— Ephesians; Ephraim.
Epis.— Episcopal.
E. S.— Ells Scotch.
Esd.— Esdras.
E.-S.-E.— East-South-East.
Esq.— Esquire.
Esth.— Esther.
E. T.— English Translation.
Et. al.— *Et alii*, and others.
Etc., or &c.— *Et cæteri, et cæteræ, et cætera*, and others; and so forth.
Eth.— Ethiopic; Ethiopian.
Et seq.— *Et sequentia*, and what follows.

Etym.— Etymology.
E. U.— Evangelical Union.
Ex.— Example.
Ex.— Exodus.
Exc.— Excellency; exception.
Exch.— Exchequer; Exchange.
Ex. Doc.— Executive Document.
Exec. Com.— Executive Committee.
Execx.— Executrix.
Ex. gr.— For example (*exempli gratiâ*).
Exr. or Exec.— Executor.
Ez.— Ezra.
Ezek.— Ezekiel.

F. and A. M.— Free and Accepted Masons.
F., or Fahr.— Fahrenheit (thermometer).
F. A. S.— Fellow of the Antiquarian Society.
F. B. S.— Fellow of the Botanical Society.
F. C.— Free Church of Scotland.
Fcap, or fcp.— Foolscap.
F. C. P. S.— Fellow of the Cambridge Philological Society.
F. C. S.— Fellow of the Chemical Society.
F. D.— Defender of the Faith.
F. E.— Flemish ells.
Feb.— February.
Fec.— *Fecit*, he did it.
Fem.— Feminine.
F. E. S.— Fellow of the Entomological Society; Fellow of the Ethnographical Society.
Ff.— Following.
Ff.—The Pandects.
F. F. V.— First Families of Virginia.
F. G. S.— Fellow of the Geological Society.
F. H. S.— Fellow of the Horticultural Society.
Fi. Fa.— *Fieri facias*, cause it to be done.
Fid. Def.— Defender of the Faith.
Fig.— Figure.
Fin.— Finland.
Finn.— Finnish.
Fir.— Firkin.
F. K. Q. C. P. I.— Fellow of King's and Queen's College of Physicians, Ireland.
Fl. E.— Flemish ells.
Fla.— Florida.
F. L. S.—Fellow of the Linnæan Society.
F.-M.— Field-Marshal.
F.-O.— Field-Officer.
Fol.— Folio.
For.— Foreign.
F. P. S.— Fellow of the Philological Society.
Fr.— France; French.
Fr.— Francis.
Fr.— From.
F. R. A. S.— Fellow of the Royal Astronomical Society.
F. R. C. P.— Fellow of the Royal College of Physicians.
F. R. C. S. L.— Fellow of the Royal College of Surgeons, London.
Fred.— Frederick.
Fr. E.— French ells.
Fr., Frs.— Franc; Francs.
F. R. G. S.— Fellow of the Royal Geographical Society.
F. R. Hist. Soc.— Fellow of the Royal Historical Society.
Fri.— Friday.
F. R. S.— Fellow of the Royal Society.
F. R. S. S. A.— Fellow of the Royal Scottish Society of Arts.
F. R. S. E.— Fellow of the Royal Society, Edinburgh.
F. R. S. L.— Fellow of the Royal Society, London.
F. S. A.— Fellow of the Society of Arts, or of Antiquaries.
F. S. A. E.— Fellow of the Society of Antiquaries, Edinburgh.
F. S. A. Scot.— Fellow of the Society of Antiquaries of Scotland.
F. S. S.— Fellow of the Statistical Society.
Ft.— Foot; feet; Fort.
Fth.— Fathom.
Fur.— Furlong.
F. Z. S.— Fellow of the Zoölogical Society.

Ga.— Georgia.
G. A.— General Assembly.
Gal.— Galatians; Gallon.
Galv.— Galvanism.
Galv.— Galveston.
G. B.— Great Britain.
G. B. & I.— Great Britain and Ireland.
G. C.— Grand Chapter; Grand Conductor.
G. C. B.— Grand Cross of the Bath.
G. C. H.— Grand Cross of Hanover.
G. C. K. P.— Grand Commander of the Knights of St. Patrick.
G. C. L. H.— Grand Cross of the Legion of Honor.
G. C. M. G.— Grand Cross of St. Michael and St. George.

G. C. S. I.— Grand Commander of the Star of India.
G. D.— Grand Duke; Grand Duchess.
G. E.— Grand Encampment.
Gen.— Genesis; General.
Gen.— Genus; Genera; Genealogy.
Gent.— Gentleman.
Geo.— George.
Geog.— Geography.
Geol.— Geology.
Geom.— Geometry.
Ger.— German; Germany.
Gl.— *Glossa*, a gloss.
G. L.— Grand Lodge.
G. M.— Grand Master.
G. M. K. P.— Grand Master of the Knights of St. Patrick.
G. M. S. I.— Grand Master of the Star of India.
G. O.— General Order.
Goth.— Gothic.
Gov.— Governor.
Gov.-Gen.— Governor-General.
Govt.— Government.
G. P.— *Gloria patri* ("Glory be to the Father").
G. P. O.— General Post-Office.
G. R.— *Georgius Rex*, King George.
Gr.— Greek; Gross.
Gr., Grs.— Grain; Grains.
Grad.— Graduated.
Gram.— Grammar.
Grot.— Grotius.
G. S.— Grand Secretary; Grand Sentinel; Grand Scribe.
G. T.— Good Templars; Grand Tyler.
Gtt.— Drop; drops (*gutta* or *guttæ*).

H. A.— *Hoc anno*, this year.
Hab.— Habakkuk.
Hab. corp.— *Habeas corpus*, you may have the body.
Hab. fa. poss.— *Habere facias possessionem.*
Hab. fa. seis.— *Habere facias seisinan.*
Hag.— Haggai.
Hants.— Hampshire.
H. B. C.— Hudson Bay Company.
H. B. M.— His or Her Britannic Majesty.
H. C.— House of Commons; Herald's College.
H. C. M.— His or Her Catholic Majesty.
H. E.— *Hoc est*, that is, or this is.
Heb.— Hebrews.
Heb.— Hebrew.
H. E. I. C.— Honorable East India Company.
H. E. I. C. S.— Honorable East India Company's Service.
Her.— Heraldry.
Hf.-bd.— Half-bound.
Hg.— *Hydrargyrum*, mercury.
H.-G.— Horse-guards.
H. H.— His or Her Highness; His Holiness (the Pope).
Hhd.— Hogshead.
Hier.— Jerusalem (*Hierosolyma*).
H. I. H.— His or Her Imperial Highness.
Hind.— Hindu; Hindustan; Hindustanee.
Hipp.— Hippocrates.
Hist.—History.
H. J. S.— *Hic jacet sepultus.* Here lies buried.
H. M.— His Majesty.
H. L.— House of Lords.
H. M. P.— *Hoc monumentum posuit*, erected this monument.
H. M. S.— His or Her Majesty's Ship.
Holl.— Holland.
Hon.— Honorable.
Hort.— Horticulture.
Hos.— Hosea.
H.-P. — High-priest; Horse-power; Half-pay.
H. R.— House of Representatives.
H. R. E.— Holy Roman Empire.
H. R. H.— His Royal Highness.
H. R. I. P.— *Hic requiescit in pace*, Here rests in peace.
H. S.— *Hic situs*, Here lies.
H. S. H.— His Serene Highness.
H. T.— *Hoc titulum*, this title; *hoc, tituli*, in or under this title.
Hund.— Hundred.
Hung.— Hungarian.
H. V.— *Hoc verbum*, this word; *his verbis*, in these words.
Hyd.— Hydrostatics.
Hypoth.— Hypothesis; Hypothetical.

Ia.— Iowa.
Ib., or ibid.— *Ibidem*, in the same place.
Icel.— Iceland; Icelandic.
Ich.— Ichthyology.
Icon. Encyc.— Iconographic Encyclopedia.
I. Ch. Th. U. S.— (Ιχθυς) Jesus Christ the Son of God, the Saviour (*Iesous Christos Theou Huios Soter*).
Ictus.— *Jurisconsultus.*
Id.— Idaho.
Id.— *Idem*, the same.
Id.— The Ides (*Idus*).
I. E.— *Id est*, that is.
I. H. S.— Jesus the Saviour of Men (*Jesus Hominum Salvator*).

I., II., III.— One, two, three, or first, second, third.
Ij.—Two (*med.*).
Ill.— Illinois.
Imp.— Imperative; imperfect.
Imp.— Imperial; Emperor (*Imperator*).
In.— Inch; inches.
In.— Indium.
Incog.— *Incognito*, unknown.
Incor.— Incorporated.
Ind. Ter.— Indian Territory.
I. H. P.— Indicated horse power.
I. N. D.— *In nomine Dei*, in the name of God.
Ind.— Indiana; Index.
Indef.— Indefinite.
Inf.— *Infra*, beneath, or below.
In f.— *In fine*, at the end of the title, law, or paragraph quoted.
Inhab.— Inhabitant.
In lim.— *In limine*, at the outset.
In loc.— *In loco*, in the place; on the passage.
In pr.— *In principio*, in the beginning and before the first paragraph of a law.
I. N. R. I.— *Jesus Nazarenus, Rex Judæorum*, Jesus of Nazareth, King of the Jews.
Inst.— Instant, of this month; Institutes.
Inst.— Institute; Institution.
In sum.— *In summa*, in the summary.
Int.— Interest.
Interj.— Interjection.
In trans.— *In transitu*, on the passage.
Int. Dept.— Department of the Interior.
Int. Rev.— Internal Revenue.
Introd.— Introduction.
I. O. O. F.— Independent Order of Odd Fellows.
Ion.— Ionic.
I. O. S. M.— Independent Order of the Sons of Malta.
I. O. U.— I owe you.
Ipecac.— Ipecacuanha.
I. Q.— *Idem quod*, the same as.
Ire.—Ireland.
I. R. O.— Internal Revenue Office.
Isa.— Isaiah.
Is., Isl.— Island.
I. T.— Inner Temple.
It.— Italy.
Ital.— Italic; Italian.
IV.— Four or fourth.
I. W.— Isle of Wight.
IX.— Nine or ninth.

J.—Justice, or Judge.
J.— One (*med.*).
J. A.— Judge-Advocate.
Jac.— Jacob.
J. A. G.— Judge Advocate-General.
Jam.— Jamaica.
Jan.— January.
Jas.— James.
J. C. D.— *Juris Civilis Doctor*, Doctor of Civil Law.
J. C.— Jurisconsult (*Juris Consultus*).
J. D.— Junior Deacon.
Jer.— Jeremiah.
J. G. W.— Junior Grand Warden.
JJ.—Justices.
Jno.— John.
Jona.— Jonathan.
Jos.— Joseph.
Josh.— Joshua.
J. P.— Justice of the Peace.
J. Prob.— Judge of Probate.
J. R.— *Jacobus Rex*, King James.
Jr., or Jun.— Junior.
J. U. D., or J. V. D.— *Juris utriusque Doctor*, Doctor of both laws (of the Canon and the Civil Law).
Jud.— Judicial.
Jud.— Judith.
Judg.— Judges.
Judge-Adv.— Judge-Advocate.
Jul. Per.— Julian Period.
Jus. P.—Justice of the Peace.
Just.— Justinian.
J. W.—Junior Warden.

K.— King.
K. A.— Knight of St. Andrew, in Russia.
Kal.—The Kalends (*Kalendæ*).
K. A. N.— Knight of Alexander Nevskoi, in Russia.
Kan.— Kansas.
K. B.— King's Bench.
K. B.— Knight of the Bath.
K. C.— King's Counsel.
K. C. B.— Knight Commander of the Bath.
K. G.— Knight of the Garter.
Kg., Kgs.— Keg; Kegs.
K. G. C.— Knight of the Grand Cross.
K. G. C. B.— Knight of the Grand Cross of the Bath.
Kil.— Kilometer.
Kilo.— Kilogram.
Kingd.— Kingdom.
K. L.— Knight of Labor.
K. L. H.— Knight of the Legion of Honor.
K. M.— Knight of Malta.
K. Mess.— King's Messenger.

Knick.— Knickerbocker.
Knt. or Kt.— Knight.
K. P.— Knight of St. Patrick; Knight of Pythias.
K. S. M. & S. G.— Knight of St. Michael and St. George of the Ionian Islands.
K. T.— Knight of the Thistle; Knight Templar.
Kt.— Knight.
Ky.— Kentucky.

L.— Fifty, or fiftieth.
L.— *Liber*, book.
L., or £. s. d.— Pounds, shillings, pence.
£, or l.— Pounds, English currency (*libra*).
£ T.— Pounds, Turkish currency.
La.— Louisiana.
L. A. W.— League of American Wheelmen.
Lam.— Lamentations.
Lang.— Language.
Lat.— Latitude; Latin.
Lapp.— Lappish.
Lb., or lb.— *Libra*, or *libræ*, pound or pounds in weight.
L. C.— Lower Canada; Lord Chamberlain; Lord Chancellor.
L. C. B.— Lord Chief Baron.
L. C. J.— Lord Chief-Justice.
Ld.— Lord; Limited.
Ldp.— Lordship.
Leg.— Legate.
Legis.— Legislature.
Leip.— Leipsic.
Lev.— Leviticus.
Lex.— Lexicon.
L. G.— Life Guards.
L. H. A.— Lord High Admiral.
L. H. C.— Lord High Chancellor.
L. H. D.— Doctor of Literature.
L. H. T.— Lord High Treasurer.
L. I.— Long Island.
Lib.— *Liber*, book.
Lieut.-Col.— Lieutenant-Colonel.
Lieut.-Gen.— Lieutenant-General.
Lieut.-Gov.— Lieutenant-Governor.
Lieut.— Lieutenant.
Lin.— Lineal.
Linn.— Linnæus; Linnæan.
Liq.— Liquor; Liquid.
Lit.—Literally; Literature.
Lith.—Lithuanian.
L., £, or l.— *Libra* or *libræ*, pound or pounds sterling.
L. Lat.— Low Latin; Law Latin.
LL. B.— *Legum Baccalaureus*, Bachelor of Laws.
LL. D.— *Legum Doctor*, Doctor of Laws.
LL. M.— Master of Laws.
L. M. S.— London Missionary Society.
Loc. cit.— *Loco citato*, in the place cited.
Lon.— Longitude.
Lond.— London.
L. P.— Lord Provost.
L. P. S.— Lord Privy Seal.
L. R. C. P.— Licentiate of the Royal College of Physicians.
L. R. C. S.— Lincentiate of the Royal College of Surgeons.
L. S. D.— Pounds, shillings, and pence.
L. S.— *Locus sigilli*, place of the seal.
Lt.— Lieutenant.
LX.— Sixty, or sixtieth.
LXX.— Seventy, or seventieth.
LXX.— The Septuagint (Version of the Old Testament).
LXXX.— Eighty, or eightieth.

M.—Married.
M. Mile.
M.— *Meridies*, noon.
M.— *Mille*, a thousand.
M., or Mons.— Monsieur.
M. A.— Master of Arts.
M. A.— Military Academy.
Macc.— Maccabees.
Maced.— Macedonian.
Mad.— Madam.
Mag.— Magazine.
Maj.— Major.
Maj.-Gen.— Major-General.
Mal.— Malachi.
Man.— Manassas.
Mar.— March.
March.— Marchioness.
Marg.— Margin.
Marg. Tran.— Marginal Translation.
Marq.— Marquis.
Masc.— Masculine.
Mass.— Massachusetts.
Math.— Mathematics; Mathematician.
Matt.— Matthew.
Max.— Maxim.
M. B.— *Medicinæ Baccalaureus*, Bachelor of Medicine.
M. B.— *Musicæ Baccalaureus*, Bachelor of Music.
M. C.— Member of Congress; Master of Ceremonies; Master Commandant.
Mch.— March.
M. C. S.— Madras Civil Service.
M. D.— *Medicinæ Doctor*, Doctor of Medicine.
Md.— Maryland.
Mdlle.— Mademoiselle.
Mdpn.—Midshipman.

M. E.— Methodist Episcopal; Military or Mechanical Engineer.
M. E., S.—Methodist Episcopal, South.
Me.— Maine.
Mech.— Mechanic; Mechanical.
Med.— Medicine.
M. E. G. H. P.— Most Excellent Grand High Priest.
Mem.— Memorandum.
Mem.— *Memento*, remember.
Merc.— Mercury.
Mess. & Docs.— Messages and Documents.
Messrs., or MM.— Messieurs, Gentlemen.
Met.— Metaphysics.
Metal.— Metallurgy.
Meteor.— Meteorology.
Meth.— Methodist.
Mex.— Mexico, or Mexican.
Mfd.— Manufactured.
Mfs.— Manufactures.
Mic.— Micah.
M. I. C. E.— Member of the Institution of Civil Engineers.
Mich.— Michaelmas.
Mich.— Michigan.
Mil.— Military.
Min.— Mineralogy.
Min.— Minute.
Min. E.— Mining Engineer.
Minn.— Minnesota.
Min. Plen.— Minister Plenipotentiary.
Miss.— Mississippi.
M. L. A.— Mercantile Library Association.
MM.— Their Majesties.
MM.— Messieurs; Gentlemen.
Mme.— Madame.
M. M. S.— Moravian Missionary Society.
M. M. S. S.— *Massachusettensis Medicinæ Societatis Socius*, Fellow of the Massachusetts Medical Society.
Mn.— Manganese.
M. N. A. S.— Member of the National Academy of Sciences.
Mo.— Missouri; Month.
Mod.— Modern.
Mon.— Montana; Monday.
Mons.— Monsieur; Sir.
Mont.— Montana.
Morn.— Morning.
Mos., or mth.— Months.
Mos.— Months.
M. P.— Member of Parliament; Member of Police; Methodist Protestant.
M. P. S.— Member of the Philological Society; Member of the Pharmaceutical Society.
M. R.— Master of the Rolls.
Mr.— Mister.
M. R. A. S.— Member of the Royal Asiatic Society; Member of the Royal Academy of Science.
M. R. C. C.— Member of the Royal College of Chemistry.
M. R. C. P.— Member of the Royal College of Preceptors.
M. R. C. S.— Member of the Royal College of Surgeons.
M. R. C. V. S.— Member of the Royal College of Veterinary Surgeons.
M. R. G. S.—Member of the Royal Geographical Society.
M. R. I.—Member of the Royal Institution.
M. R. I. A.— Member of the Royal Irish Academy.
Mrs.— Mistress.
M. R. S. L.— Member of the Royal Society of Literature.
M. S.— *Memoriæ sacrum*, Sacred to the memory.
M. S.— Master of the Sciences.
MS.— *Manuscriptum*, manuscript.
MSS.— Manuscripts.
Mt.— Mount, or mountain.
Mus. B.— Bachelor of Music.
Mus. D.— Doctor of Music.
M. W.— Most Worthy; Most Worshipful.
M. W. G. C. P.— Most Worthy Grand Chief Patriarch.
M. W. G. M.— Most Worthy Grand Master; Most Worshipful Grand Master.
M. W. P.— Most Worthy Patriarch.
Myth.— Mythology.

N.— North; Number; Noun; Neuter.
N.— Note.
N. A.— North America.
Nah.— Nahum.
Nap.— Napoleon; Napoleonic.
N. A. S.— National Academy of Sciences.
Nat. Ord.— Natural Order.
Nat.— Natural.
Nat. Hist.— Natural History.
Nath.— Nathanael, or Nathaniel.
Naut.— Nautical.
Naut. Alm.— Nautical Almanac.
N. B.— North Britain.
N. B.— New Brunswick; North British.
N. B.— *Nota bene*, mark well; take notice.
N. C.— North Carolina.
N. D.— North Dakota.
N. E.— New England; North-east.
Neb.— Nebraska.

Neh.— Nehemiah.
N. e. i.— *Non est inventus*, he is not found.
Nem. con., or nem. diss.— *Nemine contradicente*, or *nemine dissentiente*, no one opposing; unanimously.
Neth.— Netherlands.
Neut.— Neuter (gender).
Nev.— Nevada.
New Test., or N. T.— New Testament.
N. F.— Newfoundland.
N. G.— New Granada; Noble Grand.
N. H.— New Hampshire; New Haven.
N. H. H. S.— New Hampshire Historical Society.
Ni. pri.— Nisi prius.
N. J.— New Jersey.
N. l.— *Non liquet*, it does not appear.
N. lat.— North latitude.
N. M.— New Measurement.
N. M.— New Mexico.
N.-N.-E.— North-north-east.
N.-N.-W.— North-north-west.
N. O.—New Orleans.
No.— *Numero*, number.
Nol. Pros.— *Nolle prosequi*, unwilling to proceed.
Nom., or nom.— Nominative.
Non con.—Not content; dissenting (House of Lords).
Non cul.— *Non culpabilis*, Not guilty.
Non obst.— *Non obstante*, notwithstanding.
N. o. p.— Not otherwise provided for.
Non pros.— *Non prosequitur*, he does not prosecute.
Non seq.— *Non sequitur*, it does not follow.
No., or Nos.— Numbers.
Nov.— November.
N. P.— Notary Public.
N. P. D.— North Polar Distance.
N. s.— Not specified.
N. S.— New Style (after 1752); Nova Scotia.
N. S. J. C.— Our Saviour Jesus Christ (*Noster Salvator Jesus Christus*).
N. T.— New Testament.
N. u.— Name or names unknown.
Num.— Numbers; Numeral.
N. V.— New Version.
N. V. M.— Nativity of the Virgin Mary.
N.-W.— North-West.
N.-W. T.— North-West Territory.
N. Y.— New York.
N. Z.— New Zealand.

O.— Ohio.
Ob.— *Obiit*, he or she died.
Obad.— Obadiah.
Obs.— Obsolete; Observatory; Observation.
Obt., or Obdt.— Obedient.
Oct., or 8vo.— Octavo, eight pages.
Oct.— October.
O.-F.— Odd-Fellow, or Odd-Fellows.
Okl.— Oklahoma.
O. G.— Outside guardian.
O. H. M. S.— On his or her Majesty's Service.
Old Test., or O. T.— Old Testament.
Olym.—Olympiad.
O. M.— Old Measurement.
Ont.—Ontario.
Opt.— Optics.
Or.— Oregon.
Orig.— Originally.
Ornith.— Ornithology.
Os.— Osmium.
O. S.— Old Style; Outside Sentinel.
O. T.— Old Testament.
O. U. A.— Order of United Americans.
Oxf. Gloss.— Oxford Glossary.
Oxf.—Oxford.
Oxon.— *Oxonia*, *Oxonii*, Oxford.
Oz.— Ounce.

P.—*Pondere*, by weight.
P., or p.— Page; Part; Participle.
Pa., or Penn.— Pennsylvania.
Pal.— Palæontology.
Par.—Paragraph.
Par. Pas.— Parallel passage.
Parl.—Parliament.
Pat. Of.— Patent Office.
Pathol.— Pathology.
Payt.— Payment.
P. B.— Primitive Baptist.
P. B.— *Philosophiæ Baccalaureus*, Bachelor of Philosophy.
P. C.— *Patres Conscripti*, Conscript Fathers; Senators.
P. C.— Privy Council; Privy Councilor.
P. C. P.— Past Chief Patriarch.
P. C. S.— Principal Clerk of Sessions.
P. D.— *Philosophiæ Doctor*, Doctor of Philosophy.
Pd.— Paid.
P. E.— Protestant Episcopal.
P. E. I.— Prince Edward Island.
Penn.— Pennsylvania.
Pent.— Pentecost.
Per.— Persia; Persian.
Per, or pr.— By the, or per lb.
Per an.— *Per annum*, by the year.
Per cent.—*Per centum*, by the hundred.
Peri.— Perigee.
Peruv.—Peruvian.

Pet.—Peter; Petrine.
P. G.— Past Grand.
Phar.— Pharmacy.
Ph. B.— *Philosophiæ Baccalaureus*, Bachelor of Philosophy.
Ph. D.— *Philosophiæ Doctor*, Doctor of philosophy.
Phil.— Philip; Philippians; Philosophy; Philemon.
Phila., or Phil.— Philadelphia.
Philem.—Philemon.
Philom.— *Philomathes*, a lover of learning.
Philomath.—*Philomathematicus*, a lover of the mathematics.
Phil. Trans.— Philosophical Transactions.
Phren.—Phrenology.
Pinx., or pxt.—*Pinxit*, he (she) painted it.
P.-L.— Poet-Laureate.
Pl., or Plur.— Plural.
Plff.— Plaintiff.
Plupf.— Pluperfect.
P. M.— *Post meridiem*, afternoon, evening.
P. M.— Postmaster; Passed Midshipman.
P. M. G.— Postmaster-General.
P. O.— Post-Office.
P. of H.— Patrons of Husbandry.
Pop.— Population.
Port.— Portugal, or Portuguese.
P. P.— Parish priest.
P. P. C.— *Pour prendre conge*, to take leave.
Pp., or pp.— Pages.
PP.— *Patres*, Fathers.
Pph.— Pamphlet.
P. Q.— Previous Question.
P. R.— *Populus Romanus*, the Roman people.
P. R.— Prize Ring; Porto Rico; the Roman People (*Populus Romanus*).
P. R. A.— President of the Royal Academy.
P. R. C.— *Post Romam conditam*, from the building of Rome.
Preb.— Prebend.
Pref.— Preface.
Pref.— Preferred.
Prep.— Preposition.
Pres.— President.
Presb.— Presbyterian.
Prin.— Principally.
Prob.— Problem.
Proc.— Proceedings.
Prof.— Professor.
Pron.— Pronoun; Pronunciation.
Prop.—Proposition.
Prot.—Protestant.
Prot. Epis.—Protestant Episcopal.
Pro tem.— *Pro tempore*, for the time being.
Prov.— Proverbs; Provost.
Prov.— Province.
Prox.— *Proximo*, next (month).
P. R. S.— President of the Royal Society.
Prs.— Pairs.
Prus.— Prussia; Prussian.
P. S.— *Post scriptum*, Postscript.
P. S.— Privy Seal.
Ps.— Psalm, or Psalms.
Pt.— Part; Pint; Payment; Point; Port.
Pt.— Platinum.
P. T. O.— Please turn over.
P.-twp.— Post-township.
Pub.— Publisher; Publication; Published; Public.
Pub. Doc.— Public Documents.
P. v.— Post-village.
P. W. P.— Past Worthy Patriarch.
Pwt.— Pennyweight; pennyweights.

Q— *Quasi*, as it were; almost.
Q.— Queen.
Q.— Question.
Q. d.— *Quasi dicat*, as if he should say; *quasi dictum*, as if said; *quasi dixisset*, as if he had said.
Q. e.— *Quod est*, which is.
Q. e. d.— *Quod erat demonstrandum*, which was to be proved.
Q. e. f.— *Quod erat faciendum*, which was to be done.
Q. e. i.— *Quod erat inveniendum*, which was to be found out.
Q. l.— *Quantum libet*, as much as you please.
Q. M.— Quartermaster.
Qm.— *Quomodo*, how; by what means.
Q. M. G.— Quartermaster-General.
Q. p., or q. pl.— *Quantum placet*, as much as you please.
Qr.— Quarter.
Q. S.— Quarter Sessions.
Q. s.— *Quantum sufficit*, sufficient quantity.
Qt.— Quart.
Qu., or qy.— *Quære*, inquire; query.
Quar.—Quarterly.
Ques.— Question.
Q. Mess.— Queen's Messenger.
Que.— Quebec.
Q. v.— *Quod vide*, which see; *quantum vis*, as much as you will.

R.—*Recipe*, take.
R.— *Regina*, Queen.
R.— River; Rood; Rod.

R. A.— Royal Academy; Royal Academician.
R. A.— Royal Arch.
R. A.— Royal Artillery.
R. C.— Roman Catholic.
RC.— *Rescriptum*, a counterpart.
R. D.— Rural Dean.
R. E.— Reformed Episcopal.
R. E.— Royal Engineers.
Rec.— Recipe, or Recorder.
Recd.— Received.
Rec. Sec.— Recording Secretary.
Rect.— Rector; Receipt.
Ref.— Reference.
Ref.— Reformed; Reformation; Reference.
Ref. Ch.— Reformed Church.
Reg.— Register; Regular.
Reg. Prof.— Regius Professor.
Regr.— Registrar.
Regt.— Regiment.
Rel.— Religion.
Rep.— Representative; Reporter.
Repts.— Reports.
Retd.— Returned.
Rev.— Reverend; Revelation (Book of); Review; Revenue; Revise.
Rhet.— Rhetoric.
R. H. S.— Royal Humane Society; Royal Historical Society.
R. I.— Rhode Island; in stock reports, Rock Island, a railway.
R. I. H. S.— Rhode Island Historical Society.
R. M.— Royal Marines; Royal Mail.
R. M. S.— Royal Mail Steamer.
R. N.— Royal Navy.
R. N. R.— Royal Navy Reserve.
Ro.— *Recto*, right-hand page.
Robt.— Robert.
Rom.— Romans (Epistle to the).
Rom. Cath.— Roman Catholic.
R. P.— Reformed Presbyterian.
R. P.— *Regius Professor*, the King's Professor.
R. R.— Railroad.
R. R. Junc.— Railroad Junction.
R. R. Sta.— Railroad Station.
R. S.— Recording Secretary.
Rs.— *Responsus*, to answer; Rupees.
R. S. A.— Royal Society of Antiquaries; Royal Scottish Academy.
R. S. V. P.— *Repondez, s'il vous plait*, answer, if you please.
R. T. S.— Religious Tract Society.
Rt. Hon.— Right Honorable.
Rt. Rev.— Right Reverend.
Rt. Wpful.— Right Worshipful.
Russ.— Russia; Russian.
R. V.— Revised Version.
R. W.— Right Worthy.
R. W. D. G. M.— Right Worshipful Deputy Grand Master.
R. W. G. R.— Right Worthy Grand Representative.
R. W. G. S.— Right Worthy Grand Secretary.
R. W. G. T.— Right Worthy Grand Treasurer; Right Worshipful Grand Templar.
R. W. G. W.— Right Worthy Grand Warden.
R. W. J. G. W.— Right Worshipful Junior Grand Warden.
R. W. S. G. W.— Right Worshipful Senior Grand Warden.
Ry.— Railway.

S.— *Solidus*, a shilling.
S.— South; Saint; Scribe; Sulphur; Sunday; Sun; Series.
S. Afr.— South Africa.
S. A.— South America; South Australia.
S. a.— *Secundum artem*, according to art.
Sam.— Samuel.
Sansc., or Sansk.— Sanscrit, or Sanskrit.
Sard.— Sardinia.
S. A. S.— *Societatis Antiquariorum Socius*, Fellow of the Soc. of Antiquaries.
Sat.— Saturday.
Sax.— Saxon; Saxony.
Sax. Chron.— Saxon Chronicle.
S. C.— *Senatus Consultum*, a decree of the Senate; South Carolina.
Sc.— *Sculpsit*, he (or she) engraved it.
Sc. B.— Bachelor of Science
Sc., or scil.— *Scilicet*, namely.
Scan. Mag.— *Scandalum magnatum*, scandal of the great or prominent.
Schol.— *Scholium*, a note.
Schr.— Schooner.
Sclav.— Sclavonic.
Scot.— Scottish; Scotland.
Scr.— Scruple.
Scrip.— Scripture.
Sculp.— *Sculpsit*, he (or she) engraved it.
S. D.— *Salutem dicit*, sends health; South Dakota.
S.-E.— South-East.
Sec.— Secretary; Second.
Sec. Leg.— Secretary of Legation.
Sec. leg.— *Secundum legem*, according to law.
Sec. reg.— *Secundum regulam*, according to rule.
Sect.— Section.
Sem.— *Semble*, it seems.

Sem.— Seminary.
Sen.— Senate; Senator; Senior.
Sept.— September; Septuagint.
Seq.— *Sequentia*, following; *sequitur*, it follows.
Ser.— Series.
Serg.— Sergeant.
Serg.-Maj.— Sergeant-Major.
Servt.— Servant.
Sess.— Session.
S. G.— Solicitor-General.
Shak.— Shakespeare.
S. H. S.— *Societatis Historiæ Socius*, Fellow of the Historical Society.
Sic.— Doubtful; literally.
S. I. M.— Soc. for Increase of the Ministry.
Sing.— Singular.
S. Isl.— Sandwich Islands.
S. J.— Society of Jesus.
S. J. C.—Supreme Judicial Court.
S. lat.— South latitude.
S. M.— State Militia; Short Meter; Sergeant-Major; Sons of Malta.
S. M. Lond. Soc. Cor.— *Societatis Medicæ Londonensis Socius Cor.*, Corresponding Member of the London Medical Soc.
Soc. Isl.— Society Islands.
Sol.— Solomon; Solution.
Sol.-Gen.— Solicitor-General.
S. of Sol.— Song of Solomon.
Sp.— Spain; Spanish.
S. P. A. S.— *Societatis Philosophicæ Americanæ Socius*, Member of the American Philosophical Society.
S. P. G.— Society for the Propagation of the Gospel.
Sp. gr.— Specific gravity.
S. P. C. A.— Society for the Prevention of Cruelty to Animals.
S. P. C. C.— Society for the Prevention of Cruelty to Children.
S. P. Q. R.— *Senatus Populusque Romanus*, the Senate and people of Rome.
S. P. R. L.— Society for the Promotion of Religion and Learning.
Sq. ft.— Square foot, or square feet.
Sq. in.— Square inch, or inches.
Sq. m.— Square mile, or miles.
Sq. yd.— Square yard.
Sr.— Senior.
S. R. I.— *Sacrum Romanum Imperium*, Holy Roman Empire.
S. R. S.— *Societatis Regiæ Socius*, Fellow of the Royal Society.
S. S.—Sunday-school.
SS.— Saints.
SS., or ss.— *Scilicet*, to wit.
Ss.— *Semis*, half; Sessions.
S.-S.-E.— South-south-east.
S.-S.-W.— South-south-west.
St.— Saint; Street; Strait.
Stat.— Statute.
S. T. B.— Bachelor of Sacred Theology.
S. T. D.— *Sacræ Theologiæ Doctor*, Doctor of Divinity.
Ster., or Stg.— Sterling.
S. T. P.— *Sacræ Theologiæ Professor*, Professor of Divinity.
Str.—Steamer.
Subj.—Subjunctive.
Subst.— Substantive.
Sun., or Sund.—Sunday.
Sup.—Supreme.
Sup.—Supplement; Superfine.
Supt.—Superintendent.
Surg.— Surgeon; Surgery.
Surg.-Gen.— Surgeon-General.
Surv.— Surveyor.
Surv.-Gen.— Surveyor-General.
S. v.— *Sub verbo*, under the word or title.
S.-W.— South-west.
Sw.— Swiss.
Swe.— Sweden; Swedish; Swedenborg; Swedenborgian.
Switz.— Switzerland.
Syn.— Synonym; Synonymous.
Syr.—Syriac.

T., or tom.— Tome, volume.
Tab.— Table; Tabular.
Tan.— Tangent.
T. E.— Topographical Engineers.
Tenn.— Tennessee.
Ter.—Territory.
Tex.—Texas.
Text. Rec.—*Textus Receptus*, Received Text.
Tf.— Till forbid.
Th., or Thurs.— Thursday.
Theo.—Theodore.
Theol.— Theology; Theological.
Theoph.— Theophilus.
Thess.—Thessalonians.
Tho'.— Though.
Thos.— Thomas.
Thro'.— Through.
Tim.— Timothy.
Tit.— Titus.
T. O.— Turn over.
Tob.— Tobit.
Topog.— Topography; Topographical.
Tp.— Township.
Tr.— Transpose; Translator; Translation; Trustee.
Trans.— Translator; Translation; Transactions; Transpose.
Treas.— Treasurer.

Abbreviations

Trin.— Trinity.
Tues., or Tu.— Tuesday.
T. S.— Twin screw.
Tr. S.— Triple screw.
Tur.— Turkey.
Typ.— Typographer.

U.— Union.
U. B.— United Brethren.
U. C.— Upper Canada.
U. C.— *Urbe condita*, year of Rome.
U. J. C.— *Utriusque Juris Doctor*, Doctor of both Laws.
U. K.— United Kingdom.
U. K. A.—Ulster King-at-Arms.
Ult.— *Ultimo*, last; of the last month.
Unit.— Unitarian.
Univ.— University.
Univt.— Universalist.
U. P.— United Presbyterian.
U. S.— United States.
U. s.— *Ut supra*, or *uti supra*, as above.
U. S. A.— United States Army.
U. S. A.— United States of America.
U. S. M.— United States Mail.
U. S. M.— United States Marines.
U. S. M. A.— United States Military Acad.
U. S. M. C.— United States Marine Corps.
U. S. M. H. S.— United States Marine Hospital Service.
U. S. N.— United States Navy.
U. S. N. A.—United States Naval Acad.
U. S. S.— United States Senate.
Ut.— Utah.

V.— Village.
V., or vid.— *Vide*, see.
V.— Violin.
Vt.— Vermont.
V., or vs.— *Versus*, against; *Versiculo*, in such a verse.
Va.— Virginia.
Val.— Value.
Vat.— Vatican.
V. C.—Victoria Cross; Vice-Chairman; Vice-Chancellor.
V. D. L.— Van Diemen's Land.
V. D. M.— *Verbi Dei Minister*, Minister of God's word.
Ven.— Venerable.
Ver.— Verse.
V. G.— Vicar General.
V. g.— *Verbi gratia*, as for example.
Vice-Pres., or V. P.— Vice-President.
Visc.— Viscount.
Viz., or vl.— *Videlicet*, to wit; namely; that is to say.
Vo.— *Verso*, left-hand page.
Vol.— Volume.
V. R.— *Victoria Regina*, Queen Victoria.
V. S.— Veterinary Surgeon.
Vul.— Vulgate (Version).

W.— West.
Wash.— Washington.
W. B. M.— Woman's Board of Missions.
W. C. A.— Woman's Christian Association.
W. C. T. U.— Women's Christian Temperance Union.
Wed.—Wednesday.
Wf.—Wrong font.
W. F. M. S.— Woman's Foreign Missionary Society.
W. H. M. A.— Woman's Home Missionary Association.
W. I.— West Indies.
Wis.—Wisconsin.
Wisd.— Wisdom (Book of).
Wk.— Week.
W. M.— Worshipful Master.
Wm.— William.
W. M. S.— Wesleyan Missionary Society.
W. N. C. T. U.— Woman's National Christian Temperance Union.
W.-N.-W.—West-north-west.
W.-S.-W.— West-south-west.
Wt.— Weight.
Wyo.— Wyoming.
W. Va.— West Virginia.

X., or Xt.— Christ.
Xmas., or Xm.— Christmas.
Xn., or Xtian.— Christian.
Xnty., or Xty.—Christianity.
Xper., or Xr.— Christopher.

Yd.— Yard.
Ym.— Them.
Y. M. C. A.— Young Men's Christian Association.
Y. M. C. U.— Young Men's Christian Union.
Yn.— Then.
Yr.— Year.
Yrs.— Years; Yours.
Y. W. C. A.— Young Women's Christian Association.

Zach.— Zachary.
Zech.— Zechariah.
Zeph.— Zephaniah.
Zool.— Zoölogy.

&.— And.

Abdallah-Ibn-Yazim, Mohammedan conqueror of Spain, known as "Theologian." He died 1058.

Abd-el-Kader, very renowned by the persevering courage with which he opposed the aggressions of the French against his country, was the third son of a marabout of the Arab tribe of Hashem, who had risen to influence through his rank, coupled with a great sanctity of demeanor. Born in Oran in 1807, the early days of Abd-el-Kader are lost in obscurity, but by 1828 he had not only acquired the reputation of a scholar, but that of a saint, from his having twice made a pilgrimage to Mecca, the birthplace of the Prophet. Accompanied by his father, he preached a holy war against the French occupation of Algiers, and called upon the faithful to rise and expel the infidels. For a period of 15 years he contrived to defend his country, and fight against the encroachments of France; but in 1847 he was compelled to surrender himself a prisoner. He died in Damascus, May 26, 1883.

Abd-er-Rahman I., a Caliph of Cordova, born in Damascus in 731. He founded a Moorish dynasty in Spain, made Cordova his capital and became an independent sovereign. The mosque at Cordova (now used as a cathedral), ornamented with rows of cupolas, supported by 850 pillars of jasper, was built by him. He died in 787.

Abd-er-Rahman III., a Caliph of Cordova, born in 891. His long reign of 42 years is pronounced the glorious epoch of Moorish sway in Spain. He died in 961.

Abduction, the act of abducing or abducting; a taking or drawing away, and specifically an unlawful taking away of women or girls.

In law, the forcible and fraudulent taking away of women or girls. Commonly applied to the criminal offense of misleading a female under the age for marriage.

Abd-ul-Aziz, the 32d Sultan of the Ottoman Turks, was born Feb. 9, 1830, and succeeded his brother, Abdul-Medjid, in 1861. His government had great difficulties to contend with in the Cretan insurrection, the struggle of Rumania and Servia for full autonomy, and finally the outbreak of Mohammedan fanaticism. In 1871 the Sultan strove to get the succession settled upon his son, instead of his nephew Murad, in accordance with Turkish custom. At last a conspiracy forced him to abdicate the throne, May 30, 1876. Four days later, the unhappy Sultan was found dead, it is almost certain by foul play.

Abdul-Hamid II., 34th Sultan of Turkey, born Sept. 22, 1842, the second son of Sultan Abdul-ul-Medjid; succeeded to the throne in 1876, on the deposition of his brother, Murad V. Defeated in the war of 1877-1878 with Russia, he was compelled by the Treaty of Berlin to surrender a small portion of territory in Europe and Asia, to recognize the independence of the vassal States in Europe, and to acknowledge Bulgaria as a tributary principality. In 1895-1896, during the massacres of the Armenians, he took an active part in the negotiations with the European powers. In 1897, Greece forced war on Turkey in behalf of the Cretans, and in 1898, after another uprising in Crete, Great Britain and Russia forced Turkey to evacuate the island. A constitution granted Turkey in 1876, before his accession, was quickly suppressed by him, and he ruled despotically until 1908, when he was forced to restore it by a revolutionary party known as the Young Turks. A legislative assembly was elected and a large measure of liberty granted, but in April, 1909, a reactionary movement at Constantinople led to the occupation of the city by troops favoring the Young Turks party, and the deposition and exile to Salonica of the Sultan. He was succeeded by his brother, Mohammed-Reshad, under the title of Mohammed V. At the outbreak of the war of the Balkan States against Turkey, in 1912, Abdul-Hamid was removed to Constantinople, through fear that Russia might restore him to the throne during the excitement of the war.

Abdul-Medjid, a Sultan of Turkey, born April 23, 1822; succeeded to the throne July 1, 1839, at the early age of 17. The great event of his reign was the Crimean War, in which France and England allied themselves with Turkey against the encroachments of Russia, and which was terminated by the fall of Sebastopol after a long siege, in 1856. He was suc-

ceeded by his brother, Abdul Azia Khan. He died June 25, 1861.

Abdurrahman Khan, Ameer of Afghanistan; born in Kabul in 1844; was the eldest son of Ufzul Khan, and nephew of the Ameer Shere Ali. In July of 1880 he was formally chosen by the leading men of Kabul and acknowledged by the British Indian Government as Ameer of Afghanistan. From the British Indian Government he received a subsidy of $800,000 a year, with large gifts of artillery, rifles, and ammunition to improve his military force. In March, 1900, he declared his sympathy with England. He died in Kabul, Oct. 3, 1901.

Abel, the second son of Adam and brother of Cain. The latter was a tiller of the ground; Abel a shepherd. Both brought their offerings before the Lord; Cain, the first-fruits of the ground; Abel, the firstlings of the flock. God accepted the offering of Abel; the offering of Cain he rejected. The latter, instigated by envy, murdered his brother in the field.

Abel, Sir Frederick Augustus, an English chemist, born in London in 1827. Was president of the British Association in 1890. Died London, Sept. 8, 1902.

Abel, Niels Henrik, a Norwegian mathematician, born at Findö, Aug. 5, 1802. He became a lecturer at the University of Christiania, and the school of engineering there. His works deal mainly with the theory of elliptical functions, which his discoveries greatly enriched. He died young, April 6, 1829.

Abelard, (or Abailard), Pierre, a monk of the order of St. Benedict, equally famous for his learning and his passion for Heloise; born in 1079, near Nantes, in the little village of Pallet, which was the property of his father Berenger. His inclination led him to prefer a literary life; and in order to devote himself fully to philosophy he ceded his patrimony to his brothers. He studied poetry, rhetoric, philosophy, jurisprudence, and theology, the Greek, Hebrew, and Latin languages; but scholastic philosophy chiefly engaged his attention. Having learned all that Brittany could teach him, he went to Paris, the university of which attracted students from all parts of Europe. Guillaume de Champeaux, a follower of Anselm and an extreme Realist, was the most skillful disputant of his time, and Abelard, profiting by his instructions, was often victorious over his master in contests of wit and logical acumen. The friendship of Champeaux was soon succeeded by enmity; and Abelard, who had not yet completed his 22d year, removed to Melun, whither he was soon followed by a multitude of young men, attracted from Paris by his great reputation. Hostility still pursued him, but he left Melun for Corbeil, nearer the capital, where he was still more admired and persecuted. Soon after he ceased teaching to recruit his strength; and after two years returned to Paris, and found that his former teacher had removed to a monastery outside the city.

He again joined issue with him and gained so complete a triumph that he opened in Paris a school of rhetoric, the fame of which soon deprived all the others of their pupils. Shortly afterward he was appointed to his rival's chair in the cathedral school of Notre Dame, where he educated many distinguished scholars, among whom were the future Pope Celestin II., Peter of Lombardy, Bishop of Paris, Berenger, Bishop of Poictiers, and St. Bernard.

At this time there resided close to Notre Dame a young lady, by name Heloise, niece of the canon Fulbert, then of the age of 17, and remarkable for her beauty, genius, and varied accomplishments. Abelard became inspired with such violent love for Heloise as to forget his duty, his lectures, and his fame. Heloise was no less susceptible. Under the pretext of finishing her education, he obtained Fulbert's permission to visit her, and finally became resident in his house. His conduct in abusing the confidence which had been placed in him opened the eyes of Fulbert. He separated the lovers, but too late. Abelard fled with her to Brittany, where she was delivered of a son, who died early. Abelard now resolved to marry her secretly. Fulbert gave his consent, the marriage was performed, and in order to keep it secret Heloise remained with her uncle, while Abelard retained his former lodgings, and continued his lectures. Abelard, however, carried

her off a second time, and placed her in the convent of Argenteuil.

Fulbert erroneously believed it was intended to force her to take the veil, and under the influence of rage subjected Abelard to mutilation. He became, in consequence, a monk in the abbey of St. Denis, and Heloise took the veil at Argenteuil. After time had somewhat moderated his grief he resumed teaching. At the Council of Soissons (1121), no defense being permitted him, his "Essay on the Trinity" was declared heretical, and he was condemned to burn it with his own hands. Continued persecutions obliged him at last to leave the abbey of St. Denis and to retire to a place near Nogent-sur-Seine, where he built a rude hut in which he determined to live a hermit's life. Even here, however, students flocked to him, and they built him an oratory, which he dedicated to the Holy Ghost and hence called Paraclete. Being subsequently appointed abbot of St. Gildas de Ruys, in Brittany, he invited Heloise and her religious sisterhood, on the dissolution of their monastery at Argenteuil, to reside at the above oratory, and received them there. He lived for some 10 years at St. Gildas. Ultimately, however, he fled from it and lived for a time in other parts of Brittany.

St. Bernard of Clairvaux, the leading opponent of the rationalistic school of Abelard, laid his doctrines before the Council of Sens, in 1140, had them condemned by the Pope, and obtained an order for his imprisonment. Abelard appealed to the Pope, published his defense, and went to Rome. Passing through Cluny, he visited Peter the Venerable, who was abbot there. This humane and enlightened divine effected a reconciliation between him and his enemies, but Abelard resolved to end his days in retirement. The severe penances which he imposed upon himself, together with the grief which never left his heart, gradually consumed his strength, and he died, a pattern of monastic discipline, in 1142, at the abbey of St. Marcel, near Chalon-sur-Saone. Heloise begged his body, and had him buried in the Paraclete, of which she was at that time the abbess, with the view of reposing in death by his side. In 1800 the ashes of both were carried to the Museum of French Monuments at Paris, and in November, 1817, were deposited under a chapel within the precincts of the church of Monamy. The small chapel, in the form of a beautiful marble monument, in which the figures of the ill-fated pair are seen reposing side by side, is now one of the most interesting objects in the Parisian cemetery of Pere la Chaise.

Abelard was distinguished as a grammarian, orator, logician, poet, musician, philosopher, theologian, and mathematician. As a philosopher he founded an eclectic system commonly, but erroneously, termed Conceptualism, which lay midway between the prevalent Realism, represented in its most advanced form by William of Champeaux, and extreme Nominalism, represented in the teaching of his other master Roscellin, and largely approached the Aristotelian philosophy. In ethics Abelard placed much emphasis on the subjective intention, which he held to determine the moral value as well as the moral character of man's action. Along this line his work is notable, owing to the fact that his successors did little in connection with morals, for they did not regard the rules of human conduct as within the field of philosophic discussion. His love and his misfortunes have secured his name from oblivion; and the man whom his own century admired as a profound dialectician is now celebrated as the martyr of love. The letters of Abelard and Heloise have been often published in the original and in translations. Pope's poetical epistle "Eloisa to Abelard" is founded on them. Abelard's autobiography, entitled "Historia Calamitatum," is still extant. The chief work on the life of Abelard is Remusat's "Abelard" (two vols. Paris, 1845). See also Compayre's "Abelard and the Origin and Early History of Universities" (1893; series of "Great Educators"). A complete edition of his work was published by Cousin (two vols. Paris, 1849–1859).

Abercrombie, John, in his day the most eminent of Scottish physicians, was born in 1780, at Aberdeen, where his father was a parish minister. His principal professional writings were treatises on the pathology of the brain and on diseases of the stom-

ach. Dr. Abercrombie died suddenly, Nov. 14, 1844.

Abercrombie, Sir Ralph, a British general, born in 1738. He was commander-in-chief in the West Indies, in 1795; in the attempt against Holland, in 1799, and in the expedition to Egypt. Mortally wounded in the beginning of the battle of Alexandria (March 21, 1801), the general kept the field during the day, and died some days after his victory.

Aberdeen, the chief city and seaport in the North of Scotland, lies at the mouth and on the N. side of the river Dee, 111 miles N. of Edinburgh. Population of the parliamentary burgh (1901) 153,108.

Aberdeen, George Hamilton Gordon, Earl of, born in 1784. He took office as Secretary of State for Foreign Affairs in 1828, in the ministry formed under the Duke of Wellington, and in 1843 in the Peel ministry. Entering public life as a Tory, his policy was that of non-interference in the affairs of foreign states. In 1853, Earl Aberdeen was selected to head a new ministry, which for some time was extremely popular. He endeavored to prevent the country from entering upon the conflict with Russia, but all his efforts were unavailing. Failing to receive sufficient support to carry out his measures, he resigned in 1855. Died Dec. 14, 1860.

Aberdeen, Sir John Campbell, Hamilton Gordon, seventh Earl of, born in 1847. He served as Governor-General of Canada (1893–1898), and as Lord-Lieutenant of Ireland in 1886 and after 1905. His wife, born in 1857, is a daughter of Lord Tweedmouth and a direct descendant of Robert Bruce. She is an accomplished orator, and organized the Irish Village at the Columbian Exposition in Chicago in 1893. For many years she has been conspicuous in plans for promoting the welfare of women.

Abernethy, James, a Scotch civil engineer, born in Aberdeen in 1815. As a boy he assisted his father on the extension of the London docks, and afterward designed and built the lock and dock at Aberdeen, the docks at Swansea, Newport, Cardiff and Hull, and the Cavour canal in Italy; designed the accepted plan for the improvement of the Danube at Vienna; reclaimed Lake Aboukir, in Egypt, and proposed the Manchester ship-canal and was its consulting engineer. He was the first to apply hydraulic power for working lock-gates.

Abernethy, John, an eminent English surgeon, founder of the School of St. Bartholomew's; born in London, April 3, 1764. He died at Enfield, April 28, 1831.

Abert, John James, an American military engineer, born in Virginia in 1788; served in the War of 1812; was made chief of United States topographical engineers in 1838; assisted in developing important canals and other works; member of the Geographical Society of France. He died in 1863.

Abesta, or **Avesta,** the name of one of the sacred books of the Persian magi, which they ascribe to their great founder Zoroaster.

Abgar, or **Abgarus,** is the name or title of 28 princes of Edessa, in Mesopotamia. The most notable of these princes is the 14th of the name, a contemporary of Jesus, and was said to have written a letter to Jesus and to have received an answer from Him. These letters, translated into Greek from the Syriac by Eusebius of Cæsarea, were denounced as spurious by Pope Gelasius in 494 and soon lost all credit. The letter from Abgar contains a request that Jesus should visit him, and heal him of a certain disease. In the reply, Jesus is represented as promising to send a disciple to heal him after His ascension. What purported to be copies of this correspondence came to light in 1900. For other fables in this connection, see Lipsius' "Die Edessenische Abgarsage" (1880).

Abgillus, surnamed Prester John, a king of the Frisons. He attended Charlemagne to the Holy Land, and did not return with him, but made great conquests in Abyssinia, which was called, from him, the empire of Prester John. He lived in the 8th century.

Abiathar (the father of abundance), a high-priest of the Jews, son of Ahimelech, who had borne the same office, and received David in his house. This so enraged Saul that he put Ahim-

elech and 81 priests to death; Abiathar alone escaped the massacre. He afterward was high-priest, and often gave King David testimonies of his fidelity. But after this he conspired with Adonijah, in order to raise him to the throne of King David, his father, which so exasperated Solomon against him that he divested him of the priesthood, and banished him A. M. 3021 (B. C. 1014).

Abib, a name given by the Jews to the first month of their ecclesiastical year, afterward called Nisan. It answered to the latter part of March and beginning of April.

Abigail, the beautiful wife of Nabal, a wealthy owner of goats and sheep in Carmel. When David's messengers were slighted by Nabal, Abigail took the blame upon herself, and succeeded in appeasing the anger of David. Ten days after, Nabal died, and David sent for Abigail and made her his wife. (I Sam. xxv: 14, etc.)

Abilene, city and capital of Taylor county, Tex.; on the Texas & Pacific railroad; 200 miles N. of Austin; has flour, cotton-seed oil, and planing mills, machine shops, creamery, chair and mattress factories, and large cattle trade. Pop. (1910) 9,204.

Abishai, son of David's sister Zeruiah, and brother to Joab.

Ablution, literally, a washing away. A ceremony consisting in bathing the body, or a part of it, in water, which has been practiced more or less extensively by the disciples of almost every form of faith.

Abo, Archipelago of, an extensive group of low, rocky islands in the Baltic Sea, spreading along the S. and W. coasts of Finland, opposite the city of Abo, rendering the navigation difficult and dangerous.

Abo, Peace of, a treaty concluded Aug. 17, 1743, between Russia and Sweden, by which Russia retained a part of Finland and restored to Sweden the remainder on condition that the latter power should elect the Prince of Holstein-Gottorp successor to the throne.

Abolitionists, in United States history, those who advocated the abolition of African slavery in the Southern States. The anti-slavery agitation dates back even to colonial days. Agitation became acute after the settlement of the war troubles of 1812–1815. In 1833, the formation of a National Anti-Slavery Society took place in Philadelphia, and in 1848 of the Free Soil Party. The abolition movement was powerfully promoted by William Lloyd Garrison, who issued a newspaper, "The Liberator," for the better dissemination of his views; and also by Wendell Phillips, Charles Sumner and others. The more extreme agitators among them denied the duty of obedience to the Constitution, since it contained the clause warranting the Fugitive Slave Law, and they denounced it as "a covenant with death and an agreement with hell." In practice they violated it by systematically assisting in the escape of runaway slaves. A line of stations known as the "Underground Railroad" was secretly arranged, along which the fugitives were passed from point to point, concealed from pursuers, and cared for until they reached safety in Canada. In Boston, Garrison was mobbed, and the abolition cause in the United States counted among its martyrs Elijah Lovejoy, shot in Alton, Ill., in 1837, and John Brown, hanged in Virginia in 1859. In 1840 the abolitionists divided on the question of the formation of a political anti-slavery party, and the two wings remained active on separate lines to the end. It was largely due to the abolitionists that the Civil War, when it came, was regarded by the North chiefly as an anti-slavery conflict, and they looked upon the Emancipation Proclamation as a vindication of this view.

Aboma, a large and formidable American snake, called also the ringed boa. Anciently it was worshipped by the Mexicans.

Aborigines. (1) An old tribe inhabiting Latium. (2) The earliest known inhabitants of any other land.

Aboukir, a small village on the Egyptian coast, 10 miles E. of Alexandria. Aboukir bay is celebrated for the naval battle in which Nelson annihilated the French fleet on Aug. 1–2, 1798. This decisive victory gained Nelson the title of Baron Nelson of the Nile; and the battle is often spoken of as the battle of the Nile.

About, Edmond, a French novelist, born in Dieuze, Lorraine, Feb. 14, 1828; died in Paris, Jan. 17, 1885.

Abra, a province of Luzon, Philippine Islands; on the N. W. coast; area, 1,484 square miles; pop. (1903) 51,860, of whom 14,037 were wild; capital, Bangued.

Abracadabra, a magical word among the ancients, recommended as an antidote against several diseases. It was to be written upon a piece of paper as many times as the word contains letters, omitting the last letter of the former every time, and suspended from the neck by a linen thread. It was the name of a god worshipped by the Syrians, the wearing of whose name was a sort of invocation of his aid.

A B R A C A D A B R A
A B R A C A D A B R
A B R A C A D A B
A B R A C A D A
A B R A C A D
A B R A C A
A B R A C
A B R A
A B R
A B
A

At present, the word is used chiefly in jest, to denote something without meaning.

Abraham, son of Terah, and brother of Nahor and Haran, the progenitor of the Hebrew nation and of several cognate tribes. At the goodly age of 175, he was "gathered to his people," and laid beside Sarah, in the tomb of Machpelah, by his sons Isaac and Ishmael.

Abraham, Plains of and **Heights of,** a table-land near Quebec, rising above the St. Lawrence, where the battle of Quebec was fought between the British and French (1759).

Abranyi, Kornel, a Hungarian poet, novelist, and publicist; born in Budapest, Dec. 31, 1849. As a member of the Hungarian diet and as editor of the "Pesti Naplo," he is an important political figure in Hungary.

Abrogation. The term is used popularly as the equivalent of repeal, whether by statute or contrary usage.

Abruzzi, Prince Luigi Amadeo, Duke of, Italian explorer; born in Rome, Jan. 30, 1873; a nephew of King Humbert. In May, 1899, he started on an expedition, in the specially prepared steamer "Star of Italy," for Franz Josef Land, intending, when frozen in, to use sledges in a search for the North Pole and the balloon explorer, Dr. Andrée. He returned to Norway in September, 1900, after having reached a point in latitude 86° 33′ N., surpassing Nansen's furthest N. record by 19′.

Absalom, the third son of David, king of Israel, remarkable for his beauty and for his unnatural rebellion against his father, which led to his untimely death.

Abscess, a gathering of pus in any tissue or organ of the body. Abscesses may occur in almost any portion of the body. They are of three types: the acute abscess, or phlegmon, arising from an inflammatory tendency in the part; the chronic abscess, connected with scrofulous or other weakness in the constitution; and the diffused abscess, due to contamination in the blood.

Absenteeism, a term applied to the owners of estates in a country who habitually absent themselves from that country, and spend the income of their estates in it in another country. Used more particularly regarding Irish landlords who live elsewhere.

Absinthe, a liqueur made principally in Switzerland, and much used by the French; composed of volatile oil of wormwood, oil of anise and other ingredients mixed in alcohol. It is an intoxicant, more agreeable to the taste than usual alcoholic beverages, but its persistent use leads to extreme physical and mental disorders.

Absolution. The Roman Catholic Church since the fourth Lateran council in 1215 A. D., invests the priest with power in his priestly office to pronounce absolution from sins that have been confessed. In most other Churches, absolution is no more than a general or formal declaration that God will forgive the sins of penitents, with exhortation to seek such forgiveness.

Abstinence, the act or habit of refraining from something to which we have a propensity, or in which we find pleasure; but it is more particularly applied to the privation or sparing use of food. Abstinence has been enjoined and practiced for various

ends, as sanitary, moral, or religious. Abstinence of flesh on certain days is obligatory in the Roman Catholic Church.

The time during which life can be supported under total abstinence from food or drink, is usually stated to vary from eight to ten days; the period may, however, be greatly prolonged. Total abstinence, as a term, has also special reference to alcoholic drinks.

Abt, Franz, a German song writer; born in Saxony, Dec. 22, 1819. He studied theology at Leipsic, but abandoned it for music. He is well known as composer of the favorite song, "When the Swallows Homeward Fly." He visited the United States in 1872. He died March 31, 1885.

Abu-Klea, a place in Egypt, on the route across the country between Korti and Metammeh, both on the great bend of the Nile below Khartum; was the scene of a battle on Jan. 17, 1885, in which Sir Herbert Stewart defeated the Mahdi's forces.

Abul-Abbas, Abd-Allah, the first of the Arabian dynasty of Abbassides; a caliph of incredible cruelty, on account of which he was called "al Suffah" ("The Sanguinary"). On assurances of amnesty, he beguiled 90 members of the Ommiad family (the preceding dynasty) into a hall, where they were slain with whips and rods. He died in 754.

Abuna, the title given by the Ethiopian Christians to their metropolitan. He is the chief of the secular clergy.

Abu-Simbel, Ibsambul, or **Ipsambul,** the site of two temples on the Nile, constructed by Rameses II. The principal beauties of the facade of the larger temple (119 feet broad, and more than 100 feet high) are the four sitting colossi,, each more than 65 feet in height.

Abydos, a town and castle of Natolia, on the Straits of Gallipoli. In its neighborhood Xerxes, when he invaded Greece, crossed with his immense army the Hellespont, on a bridge of boats. Memorable also from being the scene of the loves of Hero and Leander, and from Byron having adopted its name in his "Bride of Abydos." Also an ancient city of Upper Egypt, supposed to have been the ancient This, and to have been second only to Thebes.

Abyssinia, or **Habesh,** an ancient kingdom of Eastern Africa, now under a monarch who claims the title of emperor. Abyssinia may be said to extend between lat. 8° and 16° N., and lon. 35° and 41° E., having Nubia N. and W., the Sudan W., the Red Sea littoral (Erythræa, Danakil country, etc.), E., and to the S. the Galla country. The area within these limits is about 160,000 square miles, but the present ruler claims a much more extensive territory; and latterly Abyssinia has come to be surrounded by regions belonging to or influenced more or less by Italy, France, and Great Britain. The principal divisions of Abyssinia are the provinces or kingdoms of Shoa in the S., Amhara in the center, and Tigré in the N., to which may be added Lasta, Gojam, and other territories. Addis Abeba in Shoa is the present residence of the ruler, but the Abyssinian royal residences largely consist of houses very slightly built, and thus resemble more or less permanent camps rather than towns. Other towns are Gondar, Adua, Aksum, Antalo, and Ankober, none with a population exceeding 7,000.

The Abyssinians are of mixed Semitic and Hamitic descent. They were converted to Christianity in the time of the Emperor Constantine, by some missionaries sent from Alexandria. In the 6th century the power of the sovereigns of their kingdom had attained its height; but before another had expired the Arabs had invaded the country, and obtained a footing in Adel, though they were unable to extend their conquests farther. For several centuries subsequently the kingdom continued in a distracted state, being now torn by internal commotions and now invaded by external enemies (Mohammedans and Gallas). To protect himself from the last the Emperor of Abyssinia applied, about the middle of the 16th century, to the King of Portugal for assistance, promising, at the same time, implicit submission to the Pope. The solicited aid was sent, and the empire saved. The Roman Catholic priests having now ingratiated themselves with the emperor and his family, endeavored to induce them to renounce the tenets and rites of the Coptic Church, and adopt those of Rome. This attempt, however, was

resisted by the ecclesiastics and the people, and finally ended, after a long struggle, in the expulsion of the Roman Catholic priests about 1630. The kingdom, however, gradually fell into a state of anarchy, which, about the middle of the 18th century, was complete. The king, or negus as he was called, received no obedience from the provincial governors, who, besides, were at feud with one another, and severally assumed the royal title.

Abyssinia thus became divided into a number of petty independent states. A remarkable, but, as it proved, quite futile attempt to resuscitate the unity and power of the ancient kingdom was commenced about the middle of the 19th century by King Theodore, who aimed at the restoration of the ancient kingdom of Ethiopia, with himself for its sovereign. He introduced European artisans, and went to work wisely in many ways, but his cruelty and tyranny counteracted his politic measures. In consequence of a slight, real or fancied, which he had received at the hands of the British government, he threw Consul Cameron and a number of other British subjects into prison in 1863, and refused to give them up. To effect their release an army of nearly 12,000 men, under the command of Sir Robert Napier, was dispatched from Bombay in 1867. The force landed at Zoulla on the Red Sea in November, and marching up the country came within sight of Magdale, the capital of Theodore, in the beginning of April, 1868. After being defeated in a battle Theodore delivered up the captives and shut himself up in Magdala, which was taken by storm on April 13. Theodore was found among the slain, the general opinion being that he had fallen by his own hand.

In 1885 Italy asserted a protectorate with disastrous results; defeat by Menelek's troops at Adowa in 1896 made them abandon all claims except to the Eritrean colony on the Red Sea. Menelek transferred his capital to Adis Abeba, where British, American and French interests became active. In 1903, Mr. R. P. Skinner, of the U. S. Dept. of State, effected a commercial treaty, since when over $1,000,000 of cotton goods are imported annually from the U. S. The city has telegraphic and telephonic connection with Jibutil on the Gulf of Aden, whence a railway to Harar and Diré Dawa, 186 m., will eventually reach Adis Abeba. Pop., 3,500,000.

Acacia, plants which abound in Australia, in India, in Africa, tropical America, and generally in the hotter regions of the world. Nearly 300 species are known from Australia alone. They are easily cultivated in greenhouses, where they flower, for the most part, in winter or early spring. In California several species are cultivated in the open for tannin and for timber. The Black Watte has in its bark four times as much tannin as the best oak.

Academus, a Greek mythical hero who upon the Tyndaridean invasion to rescue Helen after her abduction by Thesues, revealed her hiding-place and was thenceforth held in honor by the Lacedæmonians. The term 'academy' is derived from his name.

Academy, the gymnasium in the suburbs of Athens in which Plato taught, and so called after a hero, by name Academus, to whom it was said to have originally belonged. The word is also applied to a high school designed for the technical or other instruction of those who have already acquired the rudiments of knowledge; also a university.

Academy, French, an institution founded in 1635 by Cardinal Richelieu for the purpose of refining the French language and style. It became in time the most influential of all literary societies in Europe. Together with the Academy of Inscriptions and Belles Lettres, the Academy of Moral and Political Sciences and the Academy of Sciences, it composes the National Institute of France.

Academy of Arts, The Royal, a British institution for the encouragement of painting, sculpture, and designing; founded in 1768 by George III., with Sir Joshua Reynolds as president.

Academy of Design, National, an American institution, in New York city, founded in 1826, conducting schools in various branches of the fine arts, and holding semi-annual exhibitions at which prizes are awarded.

Academy of Fine Arts, The, a French institution, originally founded

in 1648 at Paris under the name of the Academy of Painting and Sulpture. In 1795 it was joined to the Academy of Architecture, and has borne its present name since 1819.

Academy of France at Rome, an institution for the advanced study of the fine arts in Rome, Italy, founded by Colbert in 1666, during the reign of Louis XIV. It was at first established in the ruined villa Mancini on the Corso, and, in 1803, at the villa Medicis. The young artists, painters, sculptors, architects, engravers and musicians who secure the annual prizes of the Academy of Fine Arts in Paris spend four years there, with an annual pension of 3,500 francs and traveling expenses.

Academy of Inscriptions and Belles Lettres, an institution founded at Paris by Colbert in 1663, under the name of Petite Académie. Comparative philology. Oriental, Greek, and Roman antiquities and epigraphy have received the attention of the Academy, which has published a series of invaluable records and works.

Academy of Medicine, a French institution, founded in Paris in 1820, for the purpose of keeping the government informed on all subjects appertaining to the public health.

Academy of Moral and Political Science, founded at Paris in 1795, is composed of 30 members, divided into 5 sections, with 5 free academicians, 5 foreign associates, and 30 corresponding members.

Academy of Natural Sciences of Philadelphia, an institution founded in 1812.

Academy of Political and Social Science, American, an institution organized at Philadelphia in 1889 and incorporated in 1891.

Academy of Sciences, an institution founded at Paris, in 1666, by Colbert and approved by Louis XIV. in 1699, has now 66 members, in 11 sections, with two perpetual secretaries and 100 corresponding members.

Academy of Sciences and Arts, American, an academy established in Boston in 1780 by the Council and House of Representatives of Massachusetts; the successor of an institution founded by Franklin.

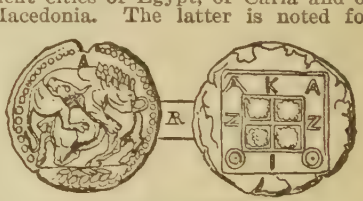
Academy of Sciences, The Imperial, a Russian institution, founded in St. Petersburg by Catherine I., in 1725, and largely endowed by Catherine II.

Academy of Sciences, The National, an American institution, founded in 1863, consisting of 100 members, elected from among the most distinguished scientific men of the United States; analogous to the Royal Society of London.

Academy of Sciences, The Royal, a German institution, in Berlin, founded by Frederick I., in 1700; is divided into four sections, devoted to mathematics, physics, philosophy, and history.

Acadia, a former French colony in North America, including Nova Scotia and nearly all of New Brunswick, settled in 1604. It grew so slowly that it numbered only 900 inhabitants in 1684. When, by the peace of Utrecht (1713), it was given to the English, the inhabitants, having refused to take the oath of allegiance, were ordered to leave their homes, and 5,000 emigrated to Louisiana and Georgia, and 2,000 were transported and scattered over New England. The story of their sorrow is touchingly introduced into Longfellow's "Evangeline."

Acanthus, the name of three ancient cities of Egypt, of Caria and of Macedonia. The latter is noted for



COIN OF ACANTHUS.

the canal across the peninsula of Mt. Athos through which Xerxes sailed on his way to Greece.

Acanthus, a genus of herbaceous shrubs, order Acanthaceæ, mostly tropical, two species of which, A. mollis and A. spinosus (the bear's-breech brankursine), are characterized by large white flowers and deeply indented shining leaves. They are favorite ornamental plants in gardens.—In architecture the name is given to a kind of foliage decoration said to have been

suggested by this plant, growing around a basket, and much employed in Roman and later styles.

Acapulco, a seaport of Mexico, on the Pacific, with a capacious, well-sheltered harbor; a coaling station for steamers, but with no great trade. Pop. 4,000.

Acclimatization, the process of accustoming plants or animals to live and propagate in a climate different from that to which they are indigenous. The numerous varieties which many species of plants and animals present are sufficient in any view to afford considerable scope for adaptation to climate.

Accolade, in heraldry, the ceremony by which in mediæval times one was dubbed a knight.

Accolti, Bernardo, an Italian poet (1465-1535. Leo X. esteemed him highly, and made him apostolic secretary, cardinal, and papal legate at Ancona. He drew up the papal bull against Luther (1520).

Accordion, a well-known keyed instrument with metallic reeds. The accordion was introduced into America from Germany about 1828. Improvements have been made on it in the flutina, the organ-accordion, and the concertina.

Account, in banking, commerce law, and ordinary language, a registry of pecuniary transactions.

Aceldama, a field purchased by the Jewish chief priests and elders with the 30 pieces of silver returned by Judas. It was used as a place of interment for strangers. The traditionary site is on a small plateau half way up the southern slope of the valley of Hinnom, near the junction of the latter with the valley of Jehoshaphat. (See Matt. xxvii: 3-10; Acts i: 18.

Acetic Acid, an acid produced by the oxidation of common alcohol, and of many other organic substances. Pure acetic acid has a very sour taste and pungent smell, burns the skin, and is poisonous. From freezing at ordinary temperatures (58° or 59°) it is known as glacial acetic acid. Vinegar is simply dilute acetic acid. Acetic acid is largely used in arts, in medicine, and for domestic purposes.

Acetylene, a gas composed of carbon and hydrogen, colorless and with a disagreeable odor, suggesting garlic. Subjected to pressure it will liquefy at a weight of 68 atmospheres. It is best produced by the action of water on carbide of calcium, and is used thus in bicycle lamps. The production of the gas is attended with considerable risk, as a too sudden application of water to the carbide will generate enormous quantities which is liable to explode when mixed with air and subjected to the slightest heat, even rubbing the vessel in which it is contained being sufficient to produce an explosion. The gas is much less poisonous than the ordinary illuminating gas, and under proper conditions can be used as a safe and cheap illuminant.

Achæans, one of the four races into which the ancient Greeks were divided. In early times they inhabited a part of Northern Greece and of the Peloponnesus. They are represented by Homer as a brave and warlike people. A confederacy or league existed among the twelve towns of this region.

Achard, Franz Karl, a German chemist, born in Berlin in 1754. He devoted himself to the development of the beet-sugar manufacture, and, after six years of laborious endeavor, he discovered the true method of separating the sugar from the plant. He was appointed director of the class of physics in the Academy of Science, in Berlin, and died in 1821.

Achard, Louis Amedee, a French novelist and publicist, born in 1814. He died in 1875.

Achates, a friend of Æneas, whose fidelity was so exemplary that *fidus Achates* (the faithful Achates) became a proverb.

Achenwoll, Gottfried, a German scholar, born in Elbing, Prussia, Oct. 20, 1719; became professor at the University of Gottingen, first of philosophy and afterward of law; is regarded as the founder of the science of statistics. He died in Gottingen, May 1, 1772.

Acheron, the river of sorrow, which flowed around the infernal realms of Hades, according to the mythology of the ancients.

Acherusia, a lake of Campania, near Capua. Diodorus mentions that, in Egypt, the souls of the dead were

conveyed over a lake called Acherusia, and received sentence according to the actions of their lives. The boat which carried them was called Baris, and the ferryman Charon, etc.

Achilles, son of Peleus, king of the Myrmidons, in Thessaly, and of Thetis. His mother's desire for his safety made her try to make him invulnerable when a child by anointing him with ambrosia, and again by dipping him in the river Styx, from which he came out proof against wounds, all but the heel, by which she held him. He was the bravest of the Greeks in the Trojan War, in which he was slain. He is the hero of Homer's Iliad, and was said to be invulnerable.

Achilles' Tendon, TENDON OF ACHILLES, the strong tendon which connects the muscles of the calf with the heel, and may be easily felt with the hand. The origin of name will be understood from the above article.

Achmet Tewfik Pasha, a Turkish statesman, born in 1818, at Constantinople. His father was a Greek convert; his mother was a Jewess. In 1877 the Sultan appointed him President of the first Turkish Chamber of Deputies; then he became Governor-General of Adrianople, and showed himself a stern ruler in the war of 1877. In 1878 he was Premier and signed the Peace of Santo Stefano. He died in June, 1891.

Achromatic, in optics, transmitting colorless light, that is, not decomposed into the primary colors, through having passed through a refracting medium. A single convex lens does not give an image free from the prismatic colors, because the rays of different color made up of white light are not equally refrangible, and thus do not all come to a focus together, the violet, for instance, being nearest the lens, the red farthest off. If such a lens of crown-glass, however, is combined with a concave lens of flint-glass—the curvatures of both being properly adjusted—as the two materials have somewhat different optical properties, the latter will neutralize the chromatic aberration of the former, and a satisfactory image will be produced. Telescopes, microscopes, &c., in which the glasses are thus composed are called achromatic.

Acids, in chemistry, a salt of hydrogen in which the hydrogen can be replaced by a metal, or can, with a basic metallic oxide, form a salt of that metal and water. Many organic acids occur in the juices of vegetables, some in animals, as formic acid in ants.

Acland, Christina Harriet Caroline Fox, daughter of the Earl of Ilchester, born in 1750; died at Tetten, near Taunton, England, July 21, 1815. Her husband, Major John Dyke Acland, of the British Army, was captured with Burgoyne at Saratoga. He being severely wounded, she joined him in the American lines, and tenderly nursed him. Major Acland was so touched by the kindness of the Americans to himself and wife that, after his return to England he fought a duel with an officer who spoke insultingly of Americans.

Acne, a genus of skin diseases containing those characterized by pustules, which, after suppurating imperfectly, become small, hard, red, circumscribed tubercles on the skin.

Acolyte, Acolyth, and **Acolothist,** in the Roman Catholic Church, one of the inferior orders of the clergy, whose office it is to attend upon the deacons and subdeacons in the ministry of the altar, to light and hold the candles, to bear the incense, to present the priest with wine and water, etc.

Aconite, a plant familiarly known as the monk's-hood, or wolf's-bane. Its active principle is aconitine.

Acorn, the well known fruit of the oak. In the early ages, acorns constituted a principal part of the food of man. At present they are used for the feeding of pigs, etc.

Acosta, Joseph, a Spanish Jesuit, who, from being a missionary in Peru, became provincial of his order; born at Medina del Campo in 1547; died at Salamanca in 1600. His "History of the West Indies," first printed in Spanish, is universally known.

Acoustics, the science of sound. We are sensible of sound when we are affected by certain vibrations in the air or other matter in contact with our organs of hearing. In ordinary cases of hearing the vibrating medium is air, but fishes hear under water, and all substances that vibrate may be employed to propagate and convey sound.

Sound is reflected in a manner analogous to the reflection of light. When it is reflected from a plain surface the reflected sound comes as if it was propagated from a point beyond the surface at a distance equal to the distance of the real point of propagation from the surface. Sounds produced in one focus of a hollow ellipsoid are reflected to the other focus. Whispering galleries are instances of the reflection of sound to a focus, or to form sound caustics. Echoes are familiar instances of reflection of sound. Lenses have been formed of collodion filled with different gases, and by means of these sound has been refracted in a manner which is analogous to the refraction of light by glass lenses.

Acre, an American and English measure of land, containing 4,840 square yards.

Acre, or **St. Jean d'Acre,** a seaport of Syria, formerly called Ptolemais; on a promontory at the foot of Mount Carmel. This town, capital of the pashalic of the same name, is famous for the memorable sieges it has sustained.

Acropolis, the high part of any ancient Greek city, usually an eminence overlooking the city, and frequently its citadel. Notable among such citadels were the Acropolis of Argos, that of Messene, of Thebes, and of Corinth, but pre-eminently the Acropolis of Athens, to which the name is now chiefly applied.

Acrostic, a poetical composition, disposed in such a manner that the initial letters of each line, taken in order, form a person's name or other complete word or words.

Act, in dramatic language, a portion of a play performed continuously, after which the representation is suspended for a little, and the actors have the opportunity of taking a brief rest. Acts are divided into smaller portions called scenes. (See Shakespeare throughout.)

In parliamentary language, an ellipsis for an act of congress, legislature, etc.

In law: (1) Anything officially done by the court. (2) An instrument in writing for declaring or proving the truth of anything. Such is a report, a certificate, a decree, a sentence, etc.

In bankruptcy, an act, the commission of which, by a debtor, renders him liable to be adjudged a bankrupt.

Act of Settlement, an act of the Parliament of England in 1701, vesting the hereditary right to the English throne in Sophia, Electress of Hanover, and her Protestant descendants, constituting the source of the sovereignty of the house of Hanover or Brunswick, the present ruling line.

Act of Supremacy. (1) An act of the Parliament of England, in 1534, by which the king was made the sole and supreme head of the Church of England. (2) A re-enactment of the above, with changes, in 1559.

Act of Toleration, an act of the reign of William and Mary, granting freedom of religious worship, under certain comparatively moderate conditions, to all dissenters from the established Church of England, except Roman Catholics and persons denying the Trinity.

Act of Uniformity. (1) An act of the Parliament of England (1559), adopting a revised liturgy for the Church of England, entitled "An Act for the Uniformity of Common Prayer and Service in the Church, and Administration of the Sacraments." (2) An act of Parliament (1662), requiring that the revised Book of Common Prayer and Ordination of Ministers, and no other, should be used in all places of public worship and be assented to by clergymen. By this test more than 2,000 non-conforming clergymen were ejected from their churches.

Acta Sanctorum, or **Martyrum,** the collective title given to several old writings, respecting saints and martyrs in the Greek and Roman Catholic Churches, but now applied especially to one extensive collection begun by the Jesuits in the 17th century.

Actinic Rays, rays capable of producing chemical decomposition, as in photography, in the coloring of flowers and fruit. All ether waves, from all sources and of all lengths, may now be considered as actinic, some substances being decomposed by certain wave lengths and other substances by different wave lengths.

Actinism, the chemical principle of light. Three distinct principles ema-

nate from the sun — light, heat, and actinism. Numerous examples of the effects of their influence occur daily, which are erroneously attributed to the light which we see. It is actinism which fades colors, bleaches linen, rots fabrics, tans the human skin, puts out the fire, and performs the operations of photography. It acts principally by abstracting oxygen from the bodies which it affects. There may be actinism without light, or *vice versa*. Yellow glass transmits the latter, but stops the former. Dark blue glass, which transmits but little light, is quite pervious to actinism. Blue objects reflect great quantities of it, while red or yellow ones reflect but little or none. The electric and lime lights give out great quantities of actinism from their blue tinge; and gas and candles but very little, from their yellow color. The amount of actinism received from the sun differs considerably, according to the time of year, being at its maximum about the end of March, and gradually diminishing until the end of December, when it arrives at its minimum. Actinism, in large quantities, is necessary to the proper condition of the human system.

Actium, a promontory on the W. coast of Greece, jutting out on the N. W. extremity of Acarnania, not far from the entrance of the Ambracian Gulf (Gulf of Arta), at present called La Punta. It is memorable on account of the naval battle fought here between Antony and Octavianus Sept. 2, 31 B. C., ending in victory for Octavianus.

Actor, in the drama, one who represents some part or character on the stage.

Acts of the Apostles, the fifth book of the New Testament. It contains a narrative of the achievements of the leading apostles, and especially of St. Paul, the greatest and most successful of them all. Its author was St. Luke (compare Luke i: 1-4 with Acts i: 1), who was Paul's companion from the time of his visit to Troas. (Acts xvi: 8-11) to the period of his life, when he penned the second epistle to Timothy (II Tim. iv: 11).

Adab. See UD-NUN-KI.

Adalbert, a great German ecclesiastic, born of a noble family about 1000; was appointed Archbishop of Bremen and Hamburg in 1045, and papal legate to the North in 1053. He soon extended his spiritual sway over Scandinavia, and carried Christianity to the Wends. He died at Goslar, March 16, 1072.

Adam and **Eve,** the names of the first pair of human beings in the account of the creation given in the book of Genesis. Adam is strictly a generic name, applicable to both man and woman, as used in the book of Genesis, but it came to be a proper name, used with the article, as in chapters ii, iii, and iv. The origin of the name is uncertain, but is usually connected with the Hebrew root *Adam*, "to be red." It is often derived from *Adamah*, "the ground," but this is taking the simpler from the more developed form.

Adam, Juliette (Mme. Edmond Adam, née **Lamber),** a French journalist and author of many works; born Oct. 4, 1836; editor of the "Nouvelle Revue" (the organ of the Extreme Republicans), which she founded in 1879. Her second husband, Edmond Adam, was a prominent politician; became a life senator, and died in 1877. She retired from journalism in 1899.

Adam's Apple, in botany (1) the name given by Gerarde and other old authors to the plantain tree, from the notion that its fruit was that sinfully eaten by Adam in Eden. (2) The name given, for the same reason, to a species of citrus.

In anatomy, a protuberance on the fore part of the throat, formed by the "os hyoides." The name is supposed to have arisen from the absurd popular notion that a portion of the forbidden fruit, assumed to have been an apple, stuck in Adam's throat when he attempted to swallow it.

Adam's Peak, a mountain in the middle of the island of Ceylon. It is a resort of Moslem and Buddhist pilgrims, and also notable on account of an upright shadow which it casts, apparently projected on vapor. Height, 7,420 feet.

Adams, Abigail, wife of John Adams, second President of the United States; born at Weymouth, Mass., Nov. 23, 1744. Her letters, contained

in "Familiar Letters of John Adams and His Wife, Abigail Adams, during the Revolution," evince keen political sagacity, and throw valuable light upon the men and the public affairs of the time. She died at Quincy, Mass., Oct. 28, 1818.

Adams, Brooks, an American essayist and politician, born at Quincy, Mass., 1848. He is the son of Charles Francis Adams, and a lawyer by profession. Besides contributions to magazines, he has written "The Emancipation of Massachusetts" (1887), and "The Law of Civilization and Decay."

Adams, Charles, an American historical and religious writer, born in New Hampshire in 1808; was a Methodist clergyman. He died in 1890.

Adams, Charles Francis, an American statesman, born in Boston, Aug. 18, 1807; was candidate for Vice-President in 1848, twice elected to Congress, was Minister to England from 1861 to 1868, and member of the Geneva Arbitration Commission of 1871. His chief literary work was "Life and Works of John Adams" (10 vols., 1850-1856), his grandfather. He also edited the writings of his father, John Quincy Adams. He died in Boston, Nov. 21, 1886.

Adams, Charles Francis, Jr, an American soldier and writer, born in Boston, May 27, 1834. He graduated from Harvard in 1856, served in the Civil War from 1861 until 1866 when he retired with the brevet rank of brigadier-general in the regular army. Since 1874 he has given his attention to historical and financial questions, everything he publishes attracting widespread attention. He was president of the Union Pacific Railroad until 1890, and is regarded as one of the chief living authorities on railroad matters.

Adams, Charles Kendall, an American educator and historian, born at Derby, Vt., Jan. 24, 1835; died, July 26, 1902. After graduating from the University of Michigan in 1861, he studied abroad, and after holding various professorships, became president of Cornell University in 1885. In 1892, he became President of the University of Wisconsin. He was editor of Johnston's Encyclopædia.

Adams, Henry, an American historian, born in Boston, Mass., Feb. 16, 1838; grandson of J. Q. Adams. He was for some time editor of the "North American Review," and Professor of History in Harvard College. His principal work is the "History of the United States from 1801 to 1817."

Adams, John, 2d President of the United States; born in Braintree, Mass., Oct. 19, 1735. He was educated at Harvard and adopted the law as a profession. His attention was directed to politics by the question which began to excite the colonies as to the right of the English Parliament to impose taxation upon them, and he took up a position strongly opposed to the claims of the mother country. In 1765 he published in the Boston "Gazette" some essays, which were reprinted in London in 1768, under the title of "A Dissertation on Canon and Feudal Law," the subject really treated in which was the government of the colonies and the rights of the colonists. In 1774 he was chosen a delegate from Massachusetts to the 1st Continental Congress. On his return he was appointed a member of the Provincial Congress, which had already begun to take aggressive measures against the home government. In 1775 he again attended the Continental Congress at Philadelphia, in which he set himself in determined opposition to all attempts at reconciliation with the home government, and succeeded in persuading Congress to take means of national defense. To secure the good-will of Virginia he proposed Washington for the command of the army. Next session he was appointed a member of committee on naval affairs and drew up the regulations which still form the basis of the American naval code. At the beginning of 1776 he accepted the post of chief-justice of Massachusetts, but he soon after resigned the appointment. He published at this time "Thoughts on Government, applicable to the Present State of the American Colonies," in which he supported self-government by the different colonies with confederation. He seconded the motion for a declaration of independence proposed by Richard Henry Lee of Virginia, and was appointed a member of committee to draw it up. He

was a signer of the Declaration. He was also appointed a member of the Committee on Foreign Relations. He was next appointed chairman of the board of war and ordnance, a position which he held for 18 months. Near the end of 1777 he was sent to France on a special mission, and for 10 years he resided abroad as representative of his country in France, Holland, and England. He succeeded in negotiating various loans with Holland, and after taking part in the peace negotiations was appointed, in 1785, the first minister of the United States to the court of St. James. He was recalled in 1788 and elected Vice-President of the republic under Washington. In 1790 he published "Discourses on Davila," in which he opposed the principles of the French revolution. In 1792 he was reëlected Vice-President, and at the following election he became President. The country was then divided into two parties, the Federalists, who favored aristocratic and were suspected of monarchic views, and the Republicans. Adams adhered to the former party. Hamilton did his utmost with his own party to prevent the election of Adams, and his term of office proved a stormy one, which broke up and dissolved the Federalist party. His reelection was again opposed by Hamilton, which ended in effecting the return of the Republican candidate Jefferson. Living to a great age he became, as one of the last survivors of the Revolution, a hero to the following generation. In 1820 he became a member of a State convention to revise the constitution of Massachusetts. He died July 4, 1826, on the 50th anniversary of the Declaration of Independence, and on the same day as Jefferson. Adams's works were ably and carefully edited by his grandson Charles Francis Adams.

Adams, John Quincy, 6th President of the United States, son of John Adams, 2d President; born in Braintree, Mass., July 11, 1767. In his 11th year he accompanied his father on his first embassy to France, and was placed at school near Paris. He returned with his father in about 18 months, but soon went back to Europe, and attended school in Holland and at the University of Leyden. At the age of 15 Francis Dana, his father's secretary of legation, who had been appointed on a diplomatic mission to Russia, took him with him as his private secretary. After 14 months' stay in Russia he traveled back alone through Sweden and Denmark to The Hague. Soon after his father's appointment as ambassador at London he returned home to complete his studies. He graduated at Harvard in 1788, entered the office of Theophilus Parsons, and in 1791 was admitted to the bar. He now began to take an active interest in politics. He wrote a series of letters to the Boston "Sentinel" under the signature of "Publicola," in reply to Payne's "Rights of Man," and in 1793 defended Washington's policy of neutrality under the signature of "Marcellus." These letters attracted attention, and in 1794 Washington appointed him minister to The Hague. In 1798 he received a commission to negotiate a treaty of commerce with Sweden. On the accession of Jefferson to the presidency he was recalled. The Federalist party had still sufficient influence in Massachusetts to elect him to the Senate in 1803. On the question of embargo, he abandoned his party. Having lost his reëlection on this account, he immediately resigned his seat and retired to the professorship of rhetoric at Harvard, which he held from 1806 to 1809. On the accession of Madison he was appointed (1809) ambassador to Russia. He assisted in negotiating the peace of 1814 with England, and was afterward appointed resident minister at London. On the accession of Monroe to the presidency he was offered and accepted the post of Secretary of State, and at the expiration of Monroe's term of office he succeeded him in the presidency (1825). In 1831 he was returned to Congress by Massachusetts, and represented that State till his death, Feb. 21, 1848.

Adams, Julius Walker, an American civil engineer, born in Boston, Mass., Oct. 18, 1812; took part of the course at the United States Military Academy; was Colonel of the 67th New York Volunteers in the Civil War; and was the pioneer engineer of the East River bridge. He died Dec. 13, 1899.

Adams, Maude, an American actress, born at Salt Lake City, Nov. 11, 1872; daughter of an actress who was leading woman of a stock company in that city, under the stage name of Adams. At 16 years of age Miss Adams joined E. H. Sothern's company in the "Midnight Bell;" afterward she was in Charles Frohman's stock company, and later supported John Drew. She made a great success in J. M. Barrie's "Little Minister" in 1899-1900.

Adams, Oscar Fay, an American compiler and miscellaneous writer, born in Worcester, Mass.

Adams, Samuel, an American statesman and Revolutionary patriot, born at Boston, Mass., in 1722. He was elected to the Massachusetts legislature in 1765, was a delegate to the first Continental Congress in Philadelphia, and a signer of the Declaration of Independence. He was active in framing the constitution of his native state, which he served as President of the Senate, Lieutenant-Governor (1789–1794), and Governor (1794–1797). He was zealous for popular rights, and fearless in his opposition to monarchism. He died in 1803.

Adams, Sarah Flower, an English hymn-writer; born at Great Harlow, Essex, Feb. 22, 1805. In 1834 she was married to William Bridges Adams, a noted inventor. She wrote many lyrics and hymns, the most popular of which is "Nearer, My God, to Thee." She died in August, 1848.

Adams, William Taylor, an American author and editor, best known by the pseudonym "Oliver Optic;" born July 30, 1822. He was a voluminous and highly popular writer of fiction for young readers, his works including several series of travel and adventure. He died March 27, 1897.

Addams, Jane, an American philanthropist, born in Cedarville, Ill., Sept. 6, 1860. She was graduated at Rockford College in 1881, and after post-graduate studies in Europe and the United States, became an active social reformer. She inaugurated in 1889 the establishment known as Hull House, an adaptation of the "social settlement" plan to Chicago conditions. She has acted as street cleaning inspector in Chicago, and has lectured on the improvement of the condition of the poor in great cities.

Adder, etymologically, nadder, the *n* having been attracted to the article and lost. The adder has a broad, triangular head and a short tail. It rarely exceeds two feet in length. In the United States the name is popularly applied to several snakes, but the true adder does not occur.

Addison, Joseph, an English essayist, son of the Rev. Lancelot Addison, subsequently dean of Lichfield; born at his father's rectory, Milston, Wiltshire, May 1, 1672. Died at Holland House, June 17, 1719. He was one of England's greatest writers.

Beside the independent efforts of his own he aspired to be a judge and censor of the literary productions of others, and he was, perhaps, beyond any man of his day, well qualified for the task. Certainly his judgments had less force and perhaps less depth than Johnson's, but they had much more breadth, harmony, and completeness, were woven with more art into a system depending on theoretical principles, and were delivered with a grace and eloquence of which the oracular moralist was no master. If his system was somewhat shallow, it had probably the merit of directing attention more to criticism, and preparing the way for better and more philosophic standards of appreciation. Addison was buried in Westminster Abbey.

Ade, George, an American journalist and author, born in Indiana in 1866. He has published fables, etc., and is a popular writer.

Adee, Alvey Augustus, Second Assistant Secretary of State of the United States since 1886, born in Astoria, N. Y., Nov. 27, 1842; appointed Secretary of Legation at Madrid, 1870; Chief of Diplomatic Bureau, 1878; Third Assistant Secretary of State, 1882; Second Assistant Secretary of State, 1886. Appointed Secretary of State *ad interim* to fill vacancy, Sept. 17 to Sept. 29, 1898; was acting Secretary of State during a critical period of the Chinese troubles in Aug. and Sept. 1900.

Adelsberg, a town of Austria-Hungary, remarkable for stalactical caves in its vicinity. The principal

one, in the mouth of which the Poik disappears in a vast chasm, extends to the distance of two or three miles, and is found to terminate in a lake. After proceeding 200 yards into it a vast gloomy space, called the Dome, forming a hall 300 feet long by 100 feet high, is entered. The river is heard rushing below, and on crossing it by a wooden bridge and ascending a flight of steps cut in the rock, a series of lofty halls, supported by gigantic concretions resembling lofty Gothic columns, and apparently filled with statues of exquisite whiteness and delicacy, meets the view.

Adelung, Johann Christoph, a German philologist and lexicographer; born in Spantekow, Aug. 8, 1732. His life was devoted to an exhaustive investigation of his native language, which he traced to its remotest origins with a patience and a thoroughness that have remained unsurpassed. He died in Dresden, Sept. 10, 1806.

Aden, a peninsula and town belonging to Great Britain, on the S. W. coast of Arabia, 105 miles E. of the strait of Bab-el-Mandeb, the entrance to the Red Sea. The peninsula is a mass of volcanic rocks, 5 miles long from E. to W., and rising to 1,776 feet. It is joined to the mainland by a narrow, level, and sandy isthmus. The town is on the eastern shore of the peninsula, stands in the crater of an extinct volcano, and is surrounded by barren, cinder-like rocks. Frequently the heat is intense; but the very dry, hot climate, though depressing, is unusually healthy for the tropics. It has a garrison and strong fortifications, and a population of over 41,000.

Adirondack Mountains, the highest range in New York State, covering an area of about 12,500 square miles, and occupying parts of Clinton, Essex, Franklin, and Hamilton counties. These mountains, the geological formation of which are chiefly granite, run in five parallel ranges; the highest range, or Adirondack proper, is on the E. side of the district, and the peaks rise to a great height. Mt. Marcy is 5,345 feet; Gray peak, 4,900 feet; White Face, 4,870 feet, etc. This whole district, sometimes called the Adirondack Wilderness, is covered with dense forests, except the tallest peaks, and some of these forests are still unexplored. The 1,000 lakes in the valleys beautifully diversify the scenery.

Adirondack Park, a large district principally forest land, set apart by the State of New York, in 1892, for the protection of the watershed of the Hudson and other rivers of the State, for public recreation, and for the practical study of forestry. It covers Hamilton county, and parts of Essex, Franklin, Herkimer and St. Lawrence counties, and contains many mountains and lakes. Area, 4,387 square miles.

Adjutant, in military language, in the United States army, an officer selected by the colonel, whose duties in respect to his regiment are similar to those of an adjutant general with an army. Adjutant general: the principal organ of the commander of an army in publishing orders. The same organ of the commander of a corps, or department, is styled assistant adjutant general. The adjutant general has charge of the drill and discipline of the army.

Adjutant Bird, a large grallatorial or wading bird of Asia belonging to the stork family.

Adler, Felix, an American lecturer and scholar, born at Alzey, Germany, 1851. The son of an eminent Jewish rabbi, he emigrated when young to the United States, where, and at Berlin and Heidelberg, he was educated. After being for some time professor at Cornell University, he founded in New York (1876) the Society of Ethical Culture, of which he is lecturer. Similar societies have been established elsewhere in the United States and in other countries. He is an effective writer and speaker. He has published "Creed and Deed" (1878); "The Moral Instruction of Children" (1892). In June, 1902, he was called to the newly-created professorship of social and political ethics in the department of philosophy in Columbia University.

Adler, Hermann, a German writer, born in Hanover, May 29, 1839. He has lived most of his life in England, having been, since 1891, Chief Rabbi of the British Empire.

Administration, in law, the management of the personal estate of any-

one dying intestate, or without an executor. The word is also applied to the official terms of the President of the United States, and the Governors of States, mayors, etc., and to their official advisers.

Admiral, the title of the highest rank of naval officer. The term is derived from the Arabic amîr, or emîr. In entomology, a large butterfly common throughout America and Europe; in conchology, a shell, formerly valuable because of its rarity.

Admiralty Inlet, a narrow body of water, connecting Puget Sound with the Strait of Juan de Fuca.

Admiralty Island, a mountainous island, 90 miles long, off the W. coast of Alaska, to the N. E. of Sitka; belongs to the United States.

Admiralty Islands, a group of 40 islands, to the N.E. of New Guinea; Basco, the largest of them, being 60 miles in length, and is mountainous, but fruitful. The total area of the islands is 878 square miles. Together with New Britain and some adjoining groups, they were annexed by Germany, in 1885, and now form part of the Bismarck Archipelago.

Adobe, the name given in southwestern America to sun-dried bricks, and the structures built of them.

Adonai, a Hebrew name for the Supreme Being; a plural form of Adon, "lord," combined with the pronoun of the first person. In reading the Scriptures aloud, the Jews pronounce "Adonai" wherever the old name "Jhvh" is found in the text, and the name Jehovah has risen out of the consonants of "Jhvh," with the vowel points of Adonai.

Adonis, a pheasant's eye. A genus of plants so called because the red color of the species made them look as if they had been stained by the blood of Adonis. It is a beautiful plant, with bright, scarlet flowers, and having very markedly composite leaves, with linear segments. Plants of this genus are easily cultivated.

Adoption, the act of taking a stranger into one's family, as a son or daughter; or the taking of a person, a society, etc., into more intimate relations than formerly existed with another person or society; or the taking as one's own, with or without acknowledgment, an opinion, plan, etc., originating with another; also the selecting one from several courses open to a person's choice.

Adrian, or **Hadrian, Publius Ælius,** a Roman emperor, born at Rome, 76 A. D. Entering the army quite young, he became tribune of a legion, and married Sabina, the heiress of Trajan, whom he accompanied on his expeditions, and became successively prætor, governor of Pannonia, and consul. On Trajan's death, in 117, he assumed the government, made peace with the Persians, and remitted the debts of the Roman people. In his reign, the Christians underwent a dreadful persecution. He built a temple to Jupiter, on Mount Calvary, and placed a statue of Adonis in the manger of Bethlehem; he also had images of swine engraved on the gates of Jerusalem, all of which acts indicate a contempt for Christianity. Adrian died at Baiæ, in 139.

Adrian I., Pope, born at Rome; succeeded Stephen III. in 772. Adrian died after a pontificate of nearly 24 years, 795.

Adrian II., born at Rome; succeeded Nicholas I. in the papal chair in 867. He had been married, and had a daughter by his wife Stephania, from whom he afterward separated in order to live in celibacy. During the pontificate of Adrian, Photius, Patriarch of Constantinople, withdrew from the Church of Rome, from which time the schism between the Greek and Latin Churches dates, which continues to this day. Adrian died in 872, and was succeeded by John VIII.

Adrian IV., the only Englishman who was ever raised to the dignity of the papal chair, succeeded Anastasius IV. in 1154. His name was Nicholas Breakespere; and for some time he filled a mean situation in the monastery of St. Albans. Being refused the habit in that house, he went to France, and became a clerk in the monastery of St. Rufus, of which he was afterward chosen abbot. Eugenius III. created him cardinal, in 1146, and, in 1148, made him legate to Denmark and Norway, which nations he converted to the Christian faith. When nominated pope, he granted to Henry

II. a bull for the conquest of Ireland. In 1155, he excommunicated the King of Sicily; and, about the same time, the Emperor Frederic, meeting him near Sutinam, held his stirrup while he mounted his horse. Adrian took the Emperor with him, and consecrated him King of the Romans, in St. Peter's church. The next year the King of Sicily submitted, and was absolved. Died, supposed of poison, in 1159.

Adriatic Sea, a large arm of the Mediterranean Sea, extending, in a N. W. direction, between the E. coast of Italy and the W. coast of the Balkan peninsula, being terminated to the S. by the Strait of Otranto, 45 miles wide. In the N. it forms the Gulf of Venice, and in the N. E. the Gulf of Trieste. The W. coast is comparatively low and has few inlets, and the N. is marshy and edged with lagoons. On the other side, the coasts of Illyria, Croatia, Dalmatia, and Albania are steep, rocky, and barren, with many inlets, and begirt with a chain of almost innumerable small, rocky islands.

Adulteration, a term applied to the fraudulent mixture of articles of commerce, food, drink, drugs, seeds, &c., with noxious or inferior ingredients. The chief objects of adulteration are to increase the weight or volume of the article, to give a color which either makes a good article more pleasing to the eye or else disguises an inferior one, to substitute a cheaper form of the article, or the same subtances from which the strength has been extracted, or to give it false strength. Laws against the practice have existed since the 13th century; it is forbidden in civilized countries.

Advent, a term applied to certain weeks before Christmas. Anciently, the season of Advent consisted of six weeks, and this is still the duration of it in the Greek Church. In the Roman Catholic Church, however, and in the Protestant Churches that observe Advent, it only lasts four weeks, beginning with the Sunday nearest St. Andrew's Day (Nov. 30), either before or after.

Adventists, a sect in the United States, founded by William Miller, and sometimes called Millerites, which believed that Christ's second coming would occur in October, 1843. When their hopes were not realized, the number of believers decreased. The Adventists still look with certainty for the coming of Christ, but not at a fixed time. They are now divided into the following bodies: Evangelical, Advent Christian, Seventh Day, Church of God, Life and Advent Union, and Churches of God in Jesus Christ. The following table gives a summary of the various Adventist Churches in the United States as reported by the Census Bureau in 1910 for 1906:

Denominations	Ministers	Churches	Communicants
1. Evangelical.....	8	16	453
2. Advent Christian.	528	428	24,987
3. Seventh Day.....	488	981	58,923
4. Church of God...	20	3	354
5. Life and Advent Union	40	6	509
6. Churches of God in Jesus Christ.	56	37	1,916
7. Unattached congs	12	2	167
Total Adventists.	1,152	1,473	87.309

Advocate. (1) Originally one whose aid was called in or invoked; one who helped in any business matter; (2) In law, at first, one who gave his legal aid in a case, without, however, pleading.

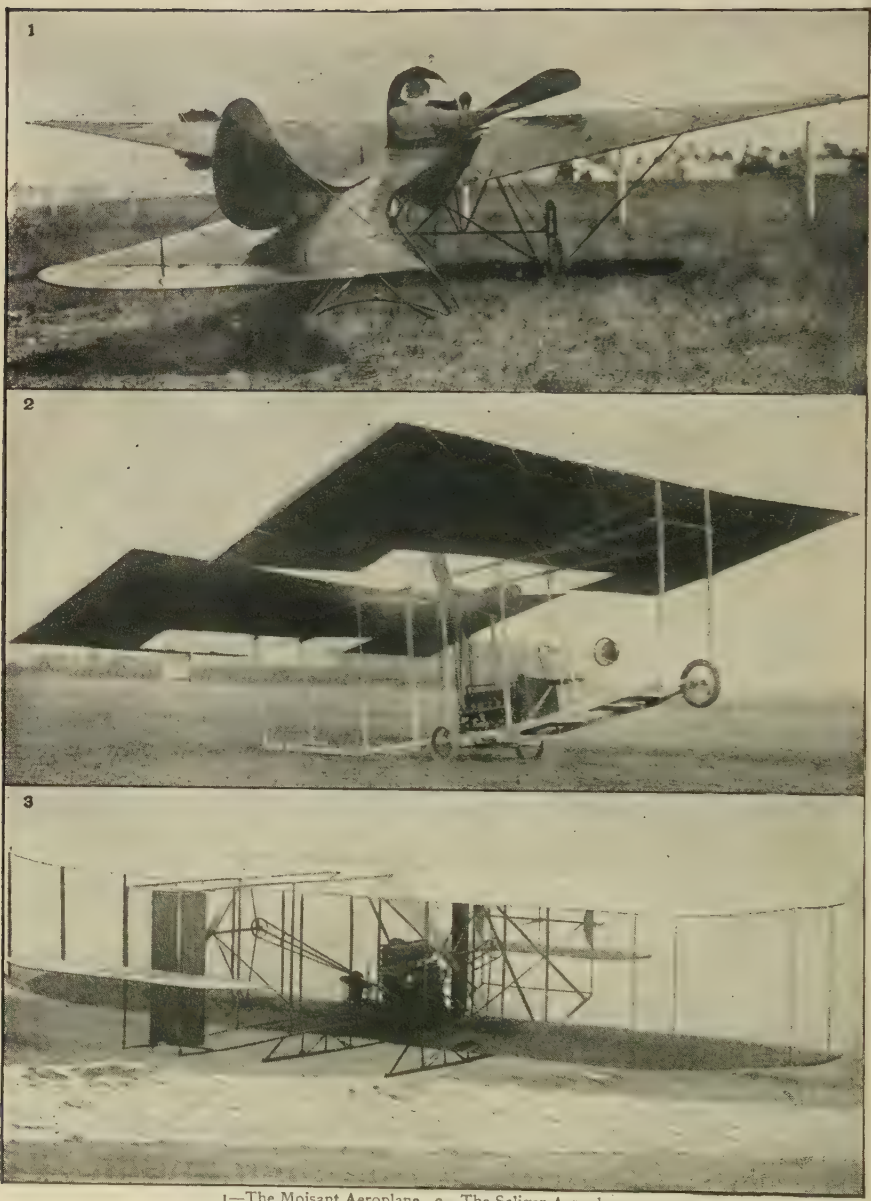
Now, in English and American law, one who pleads a cause in any court, civil or criminal. It is not, properly speaking, a technical word, but is used only in a popular sense, as synonymous with barrister or counsel.

In the army the judge-advocate is the officer through whom prosecutions before courts-martial are conducted. There is also a judge-advocate-general for the army at large.

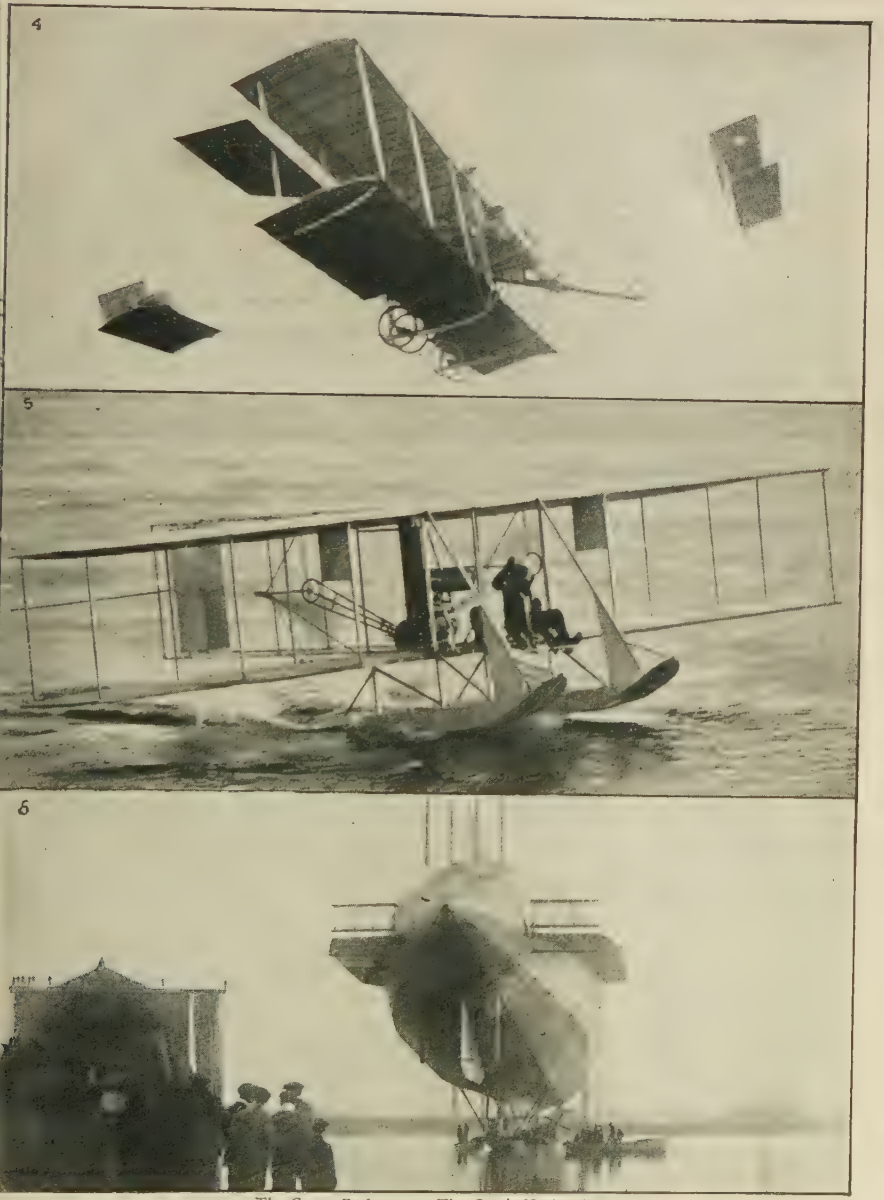
Ædile, in ancient Rome magistrates who had charge of public and private buildings, of aqueducts, roads, sewers, weights, measures, the national worship, and, specially when there were no censors, public morality.

Ægean Sea, the old name of the gulf between Asia Minor and Greece, now usually called the Grecian Archipelago.

Ægina, a Greek island about 40 square miles in area, in the Gulf of Ægina.



1—The Moisant Aeroplane 2—The Saliger Aeroplane
3—The Wright Biplane (Copyright 1910 Underwood & Underwood)



4—The Curtis Biplane 5—The Curtis Hydroplane
6—The English Naval Airship

Ægis, the shield of Zeus, which had been fashioned by Hephæstus (Vulcan). It was the symbol of divine protection.

Æneas, a Trojan prince, the hero of Virgil's great epic.

Æneid, one of the great epic poems of the world. It was written in Latin by Virgil, and published after his death, which took place about 16 B. C.

Æolian Harp, a harp played by Æolus—in other words, by the wind. It is made by stretching strings of catgut over a wooden sound-box.

Æolus, the god of the winds, who was fabled by the early poets to have his seat in the floating island of Æolia; but the Latin and later Greek poets placed him in the Lipari isles.

Æpinus, Francis Maria Ulric Theodore, a distinguished electrician, who was the first to see the affinity between magnetism and electricity in its full extent. Born at Rostock, Germany, in 1724; died at Dorpat, in Livonia, in 1802.

Aerodynamics, the science which treats of the force exerted by air when in motion.

Aeronautics, the art of aerial navigation by ballooning and aviation. Ballooning involves the use of a bag-like receptacle which is made in various shapes, of silk or other material, rendered impervious by a coating of rubber, linseed oil or suitable varnish, and inflated with hydrogen, coal-gas, or other gaseous matter, specifically lighter than air. Aviation discards anything in the shape of a balloon and utilizes aeroplanes or lifting and sustaining surfaces, with apparatus heavier than air. Aerostation or aerostatics, the science of weighing air, has, somewhat erroneously become a synonym for aeronautics.

The first form in which the idea of aerial locomotion naturally suggested itself was that of providing men with wings, and the myths of Dædalus and Icarus show that the attempts of man to soar above the earth commenced in prehistoric times. A wooden pigeon which sustained itself in the air for a few minutes is recorded as having been invented by Archytas of Tarentum, 400 years B. C. Suetonius states that Simon Magus was killed in Rome during the reign of Nero by attempting to fly from one house to another. Friar Roger Bacon (1214-94) constructed a machine consisting of a pair of hollow copper globes, exhausted of air, which could rise in the air supporting a man seated on a chair. In the 13th century, Elmerus, a monk, is said to have flown more than a furlong from the top of a tower in Spain. Father Francesco Lana (1631-87), an Italian physicist, describes an ingenious but impracticable flying machine. Giovanna Batista Dante, a mathematician of Perugia, made several flights above Lake Thrasimene by means of artificial wings attached to the body, near the close of the 15th century, but discontinued them after an accident. In the 17th century, Besnier, a locksmith of Sable, France, prudently began to leap from one story windows, and at last ventured safely on flights from elevated positions, passing over houses, and over rivers of considerable breadth, Bishop Wilkins, Sir George Caylay and others, towards the end of the 18th century, busied themselves with speculation and experiments on the subject of aviation.

Henry Cavendish, about 1766, discovered the great levity of hydrogen gas—slightly over 14 times less than that of atmospheric air—and the following year Dr. Black, of Edinburgh, announced in his lectures that a thin bladder, filled with this gas, must ascend into the air. Cavallo made the requisite experiments in 1782, and found that a bladder was too heavy, paper not air-tight, but that soap-bubbles filled with hydrogen rose to the ceiling of the room, where they burst. The first successful balloon was made by the Montgolfier brothers, sons of Peter Montgolfier, a paper manufacturer of Annonay, France. It was a parallelepiped or six-sided bag of silk, containing 40 cubic ft.; inflated with hot air from burning paper it rose to a height of 36 ft. The brothers, after seeing a petticoat sail to the ceiling when left to dry by a fire, had conceived the idea that a bag filled with a cloud-like substance, such as smoke, would float in the air. Larger machines were constructed with greater success in ascension, a straw fire, fed by chopped wool from time to

time, being kindled under the aperture of the balloon to produce the smoke cloud; the true cause of ascension, the rarefaction of the heated air, was not discovered till a later period. The Montgolfier successes led to Charles' experiments with hydrogen gas. Within a short time several captive ascents by human beings were successfully made in heated air balloons, and on Nov. 21, 1783, Pilâtre de Rozier and the Marquis d'Arlandes made the first independent aerial expedition rising 3,000 ft. and descending safely, though not without being exposed to considerable danger, 9,000 ft. from their starting point. Ten days later, on Dec. 1, Messrs. Charles and Roberts ascended in a hydrogen balloon fitted with a safety valve, and travelled over 31 miles. Over 52 balloon ascents are recorded in 1784. Blanchard, the first professional aeronaut, with Dr. John Jeffries of Boston, crossed the English Channel from Dover to France, in a heated air balloon, Jan. 1, 1785. On June 14, 1785, Pilâtre de Rozier with Mr. Romain attempted to cross from the French side, in a combination hydrogen and heated-air balloon, but the machine caught fire 3,000 ft. in the air and both men were killed. The disaster was caused through unfortunate negligence and the cause of aeronautics did not suffer. The parachute (q. v.) was invented by Garnerin, who first made a descent Oct. 22, 1797.

Following these early experiments, among notable ascensions during the 19th century taken in the interests of science were those of Messrs. Robertson and Lhoëst in 1803-04, of Gay Lussac and Biot in 1804, of Carlo Brioschi and Andreani in 1806, of Green, the English aeronaut, with Messrs. Holland and Mason in 1836, of Bixio and Barral in 1850, of Messrs. Glaisher and Coxwell in 1862, when they reached a height of 7 miles, and of Messrs. Camille Flammarion, W. de Fonvieville, and Gaston Tissandier, 1867-69. In July, 1859, Mr. John Wise, the American aeronaut with Mr. John La Mountain and two others made a remarkable journey from St. Louis, Mo., to Henderson in Jefferson Co., N. Y., a distance of 1,150 m., in 19 h. 50 m., or at an average speed of nearly a mile a minute. Since the beginning of the 20th cent. this has been exceeded only by Count de la Vaulx's flight of 1,200 m. from Paris to Russia.

Regular balloon corps are attached to the armies of leading nations, and in their interests numerous attempts have been made to construct dirigible balloons. Gaston and Albert Tissendier achieved some success in 1884, but the first notable dirigible flight was that of Col. Renard on Apr. 9, 1884, when, in a cigar-shaped balloon, with a powerful motor and a front screw, he left Chalais-Meudon, and returned to his starting point in 23 minutes after describing an oblong course of five miles.

Since then aerial navigation has developed along the lines of dirigible balloons and motor aeroplanes. Notable successes in dirigible balloons have been achieved since 1900, chiefly by Santos-Dumont (q. v.), Count de la Vaulx of Paris, Count Almerigo of Italy, etc.; but although perfect control has been attained in a wind varying from 9 to 11 miles an hour, bulk, fragility, structural weakness, unreliableness, and inability to carry heavy loads have to be overcome before practical value is ensured. Besides Santos-Dumont's and other dirigible balloons, "La Patrie," built for the French government by M. Lebaudy, made a successful flight of more than 80 miles in 1906. Another powerful airship is the dirigible balloon designed by Louis Godard for the Wellman Polar Expedition in 1907.

Improvements also have made the pear-shaped balloon much lighter than formerly, in proportion to the area of surface, while increasing its safety, and success has been attained in arresting the balloon's progress over water by means of floating anchors. These improvements have done much to promote the sport of ballooning and aero-clubs exist in the principal countries, allied for the purpose of international contests. In 1906 the international race for the James Gordon Bennett Cup began at Paris Sept. 30, and ended in England the next day. The winners were Lieut. Frank P. Lahm, United States, member of the Aero-Club of America, 1st; Alfredo Vonmiller, Italy, 2d; Count de la Vaulx, France, 3d.

Among interesting attempts to solve the problem of aviation or flight with apparatus heavier than air, towards the close of the 19th century, were those of Otto Lilienthal of Germany, of Hiram S. Maxim, inventor of the Maxim gun, and of Prof. S. Langley of the Smithsonian Institution. Lilienthal's apparatus consisted of a system of light and extended aeroplanes attached to his person, with which he could make soaring flights against the wind from the summit of a hill, the greatest horizontal distance passed being about 1,000 ft. His experiments were ended by a fatal fall from his machine, Aug. 11, 1896. Maxim's air-ship (see FLYING MACHINE) consists of a system of superposed aeroplanes, mounted on a car driven by a steam engine. Prof. Langley's "aerodrome" made successful flights in model form, but the experiments for a practical machine ended in failure.

The problem of aerial navigation lies as much in the question of equilibrium as in the principle of flight; scientific design and better methods of balancing and guiding have diminished the earlier difficulties, and considerable advance has been made in rising, steering, remaining in the air, weight-carrying and landing without mishap. Authorities seem to confirm the opinion that Orville and Wilbur Wright, brothers, of Dayton, O., have solved the problem of aviation. For the purposes of protection, details of their machine are kept secret, but their success is attested by the Aero Club of America. Their longest flight, recorded in 1906, was 24½ m. in 38 min. 3 sec.

Since then about every kind of aviation record has been broken, and many new and astonishing ones made. In a long list of remarkable achievements the following are the most noteworthy:

Jan. 13, 1908. Henri Farman won the Deutsch-Archdeacon prize of $10,000, flying a kilometer in a closed circuit.

Oct. 6, 1908. Wilbur Wright, in France, made first flight of more than 1 h. with a passenger.

Oct. 30, 1908. Farman, in France, made first cross-country flight, 20 miles in 17 m.

July 25, 1909. Louis Blériot made first flight across English Channel in 31 m.

Aug. 28, 1909. Glenn H. Curtiss, at Rheims, won first Gordon-Bennett Aviation Cup, by 12.42 miles in 15 m. 50⅘ s.

Oct. 19, 1909. Count Charles de Lambert made first flight over a city, at Paris, rounding the Eiffel Tower at height of nearly 1,500 feet, making journey of 50 kilometers in as many minutes.

Nov. 4, 1909. Farman took Michelin Cup from Wilbur Wright, with flight of 145 miles in 4 h. 17 m.

Jan. 7, 1910. Hubert Latham, at Mourmelon, France, broke height record with 3,600 feet.

Jan. 11, 1910. Curtiss, at Los Angeles, Cal., broke record flight with passenger, 55 miles an hour.

April 19, 1910. Louis Paulhan, at Rheims, made new cross-country aeroplane record, 130 miles.

April 28, 1910. Paulhan won $50,000 prize for flight from London to Manchester, Eng., 185 miles, in 3 h. 56 m.

May 29, 1910. Curtiss won $10,000 prize for flight from Albany to Governor's Island, N. Y., 150 miles, in 2 h. 32 m.; also making both an American cross-country record and the world's speed record for such flights.

June 2, 1910. Sir Charles S. Rolls made first round-trip flight across English Channel without stop, 42 miles in 90 m. He was killed in a flight, July 12, following.

June 13, 1910. Charles K. Hamilton, the "trick aviator," made flight from New York to Philadelphia and return, 175 m.; time in air, 3 h. 34 m.

June 22, 1910. Count Zeppelin opened the first regular airship passenger service with his "Deutschland," and carried 20 passengers from Friedrichshaven to Düsseldorf, 300 miles, in 9 h. On the 28th the airship was wrecked in a gale.

July 7, 1910. Latham broke previous height record with over 5,000 feet.

July 7, 1910. M. Olieslagers, at Rheims, made new world's endurance record, 158 miles without stop, in 2 h. 35 m. 30 s.

July 9, 1910. M. Labouchere, at Rheims, made world's record for distance, 211.14 miles, in 4 h. 37 m. 45 s.

July 9, 1910. Leon Morane, at Rheims, made new speed record, 6.20 miles, in 5 m. 27 s.

July 9, 1910. Walter Brookins, at Atlantic City, N. J., broke world's record for height, 6,100 feet.

July 10, 1910. Olieslagers, at Rheims, covered 393 kilometers in 5 h. 3 m. 5 s., and Morane made 5 kilometers at rate of 68.42 miles per hour.

July 15, 1910. J. Armstrong Drexel, at Bournemouth, Eng., made an over-sea flight of 21 miles in 34 m., and Morane covered the distance in 25 m.

Aug. 11, 1910. Drexel, at Lanark, Scotland, made height of 6,750 feet.

Sept. 23, 1910. Chavez crossed the Alps between Switzerland and Italy and died from injuries, 27th.

Oct. 15, 1910. Walter Wellman, with five others, attempted to cross the Atlantic from Atlantic City, N. J., in the dirigible balloon "America," but was compelled by storm to abandon the balloon off Cape Hatteras on the 18th, having been in the air nearly 72 hours and covered about 850 miles.

Oct. 17-19, 1910. Alan R. Hawley and Augustus Post, in balloon "America II.", made record for sustained flight, from St. Louis, Mo., to Chicoutimi county, Quebec, Canada, about 1,350 miles.

Oct. 29, 1910. Grahame-White, at Belmont Park, won the Bennett cup, beating world's speed record for 100 kilometers (62.1 miles) in 61 m., 4 74-100 s.

Oct. 31, 1910. Ralph Johnstone, at Belmont Park, made biplane height record, 9,714 feet; was killed in flight at Denver, Nov. 17.

Nov. 7, 1910. Phil O. Parmelee made fastest cross-country flight and was the first to carry freight: Dayton to Columbus, O., 65 miles, in 65 m.

Nov. 23, 1910. Drexel, at Philadelphia, Pa., claimed height of 9,970 feet, world's record; claim rejected by Aero Club, but accepted by U. S. Weather Bureau.

Dec. 9, 1910. M. Legagneux, at Pau, France, in monoplane, made height of 10,499 feet; world's record.

Dec. 10, 1910. Captain Bellanger, French Army Aviation Corps, broke speed records, Vincennes to Mourmelon, 100 miles, in 70 m.

The steady continuance of speed records makes it impossible to give a complete account. Following is a list of a number of notable records which show the remarkable advance of aviation:

April 12, 1911. Prier flew from London to Paris (251 miles) in 2 h. 56 m. with stop.

Aug. 2, 1911. Vedrines, from London to Dieppe to Paris (267 miles) in 3 h. 50 m.

Sept. 2, 1911. Fourny, speed on a given distance; Buc, France (434.96 miles) in 10 h. 43 m.

Dec. 2, 1911. Prevost, with one passenger, made altitude flight at Courcy, France (9,840 ft.).

Feb. 17, 1912. Tabuteau broke the world's record for 2 hours' flight by covering a distance of 227 kilom. 454 metres (141¼ miles).

March 14, 1912. Salmet flew from London to Paris (222 miles) in 2 h. 57 m., taking this short route without stop. He also beat the fastest passenger route from London to Paris, by an average speed of over 73 miles an hour.

Afghanistan, the land of the Afghans, a country in Asia, bounded on the E. mainly by India, S. by Baluchistan, W. by Persia, and N. by the Russian Transcaspian territory, Bokhara and the Russian Pamir territory; length about 560, breadth about 450 miles; area about 225,000 square miles; pop. about 5,000,000.

The inhabitants belong to different races, but the Afghans proper form the great mass of the people. These call themselves Pushtaneh or Puktaneh. Afghans being the Persian name. They are an Iranic race, and are divided into a number of tribes, among which the Duranis and Ghilzais are the most important, the latter being the strongest of all the tribes. A tradition, evidently modern and legendary, gives them an Israelitish origin. The Afghans are bold, hardy, and warlike, fond of freedom and resolute in maintaining it, but of a restless, turbulent temper, and much given to plunder. In religion the Afghans are Mohammedans of the Sunnite sect.

The boundary between Afghanistan and British India was long uncertain, but in 1893 an arrangement was come

to between the Ameer Abdur-Rahman, and Sir Mortimer Durand. The boundary then agreed on was demarcated shortly afterward and is so drawn as to leave Chitral, Bajaur, Swat, Chilas, and Waziristan to Great Britain, while Afghanistan is given the territories of Asmar, Birmal, and Kafiristan. The Ameer's annual subsidy was also increased from 12 to 18 lacs, and restrictions on the import of arms, etc., were removed. Abdur-Rahman died in Kabul, Oct. 3, 1901. He was succeeded by his son, Habibulla Khan, who is said to be more friendly to Russian influence than his father was, a fact which excites much anxiety in Great Britain.

Africa, one of the three great divisions of the Old World, and the third in area of the five continents, lies nearly due S. of Europe and S. W. of Asia. It is of a compact form, being nearly equal at its extreme points in length and breadth. The N. section of the continent, however, has an average breadth of nearly double the S. This great change of form arises mostly from the greater projection of the upper part toward the W., and the transition on this side from the broad to the narrow section is effected suddenly by an inward turn of the W. coast, which faces S. for nearly 20° of longitude, forming the Gulf of Guinea, the greatest indentation of the coast.

Africa is united to Asia at its N. E. extremity by the Isthmus of Suez, now crossed by a great ship canal. From this point the coast runs in a W. and somewhat N. direction to the Strait of Gibraltar, the point of greatest proximity to Europe. This N. coast forms the S. shore of the Mediterranean Sea, and brings all the N. countries of Africa into close proximity with the European and Asiatic countries lying contiguous to that great ocean highway, which formed the chief medium of communication between the principal divisions of the ancient world.

The center of Africa possesses an exuberant tropical vegetation. The open pastoral belt at the extremities of the tropics is distinguished by a rich and varied flora. A special characteristic of the vegetation of the S. extremity of Africa is the remarkable variety, size, and beauty of the heaths, some of which grow to 12 or 15 feet, in the fertile parts of Nubia.

The fauna of Africa is extensive and varied, and numerous species of mammals are peculiar to the continent. According to a common view of the geographical distribution of animals, the N. of Africa belongs to the Mediterranean sub-region, while the rest of the continent forms the Ethiopian region. Africa possesses numerous species of the order quadrumana (apes and monkeys), most of which are peculiar to it. They abound especially in the tropics. The most remarkable are the chimpanzee and the gorilla. The lion is the typical carnivore of Africa. Latterly he has been driven from the coast settlements to the interior, where he still reigns king of the forest. There are three varieties, the Barbary, Senegal, and Cape lions. The leopard and panther rank next to the lion among carnivora. Hyenas of more than one species, and jackals, are found all over Africa. Elephants in large herds abound in the forests of the tropical regions, and their tusks form a principal article of commerce. These are larger and heavier than those of Asiatic elephants. The elephant is not a domestic animal in Africa as it is in Asia. The rhinoceros is found, like the elephant, in Middle and Southern Africa. Hippopotami abound in many of the large rivers and the lakes. The zebra and quagga used to abound in Central and Southern Africa, but the latter is said to be now entirely extinct. Of antelopes, the most numerous and characteristic of the ruminating animals of Africa, at least 50 species are considered peculiar to this continent, of which 23 used to occur in Cape Colony. The giraffe is found in the interior, and is exclusively an African animal. Several species of wild buffaloes have been found in the interior, and the buffalo has been naturalized in the N. The camel, common in the N. as a beast of burden, has no doubt been introduced from Asia. The horse and the ass (onager) are natives of Barbary. The cattle of Abyssinia and Bornu have horns of immense size, but extremely light. In Barbary and

the Cape of Good Hope the sheep are broad-tailed; in Egypt and Nubia they are long-legged and short-tailed. Goats are in some parts more numerous than sheep. The ibex breed extends to Abyssinia. Dogs are numerous, but cats rare, in Egypt and Barbary.

There is a marked distinction between the races in the N. and E. of the great desert and those in the Central Sudan and the rest of Africa and the S. The main elements of the population of North Africa, including Egypt and Abyssinia, are Hamitic and Semitic, but in the N. the Hamite Berbers are mingled with peoples of the same race as those of prehistoric Southern Europe, and other types of various origins, and in the E. and S. E. with peoples of the negro type. The Semitic Arabs are found all over the N. region, and even in the Western Sahara and Central Sudan, and far down the E. coast as traders. The Somalis and Gallas are mainly Hamitic. In the Central Sudan and the whole of the country between the desert and the Gulf of Guinea the population is pure negro — people of the black, flat- or broad-nosed, thick-lipped type, with narrow heads, woolly hair, high cheek-bones, and prognathous jaws. Scattered among them are peoples of a probably Hamitic stock. Nearly the whole of the narrow S. section of Africa is inhabited by what are known as the Bantu races, of which the Zulu or Kaffir may be taken as the type. The languages of the Bantu peoples are all of the same structure, even though the physical type vary, some resembling the true negro, and others having prominent noses and comparatively thin lips. The Bushmen of South Africa are of a different type from the Bantu, probably the remains of an aboriginal population, while the Hottentots are apparently a mixture of Bushmen and Kaffirs. Scattered over Central Africa, mainly in the forest regions, are pigmy tribes, who are generally supposed to be the remains of an aboriginal population. The bulk of the inhabitants of Madagascar are of Malay affinities. The total population is estimated at about 175,000,000.

As regards religion, a great proportion of the inhabitants are heathens of the lowest type. Mohammedanism possesses a large number of adherents in Northern Africa and is rapidly spreading in the Sudan. Christianity prevails chiefly among the Copts of Egypt, the Abyssinians, and the natives of Madagascar, the latter having been converted in recent times. Elsewhere the labors of the missionaries have also been attended with promising success. Over a great part of the continent, however, civilization is at a low ebb, and in the Kongo region cannibalism is extensively prevalent. Yet in various regions the natives who have not come in contact with a higher civilization show considerable skill in agriculture and various mechanical arts, as in weaving and metal working. Among articles exported from Africa are gold and diamonds, palm oil, ivory, wool, ostrich feathers, esparto, cotton, caoutchouc, etc. The total annual trade has been estimated at $500,000,000.

Political Divisions.— By recent arrangements, mainly since 1884, great areas in Africa have been allotted to Great Britain, France, Germany, Portugal, Belgium, and Italy, as coming within their respective spheres of influence, in addition to colonial possessions proper. The areas claimed by the European powers are estimated as follows: France, 4,000,000 square miles; Great Britain, 2,700,000; Germany, 1,000,000; Portugal, 825,000; Kongo Free State, 900,000; Italy, 200,000; Spain, 80,000. In 1910 the former British colonies of Cape Colony, Natal, Transvaal, and Orange River were federated as provinces in a Union of South Africa, with Gen. Louis Botha as the first premier, and the seat of the executive government at Pretoria and the legislative at Cape Town. Other British colonies are Lagos, Gold Coast, Gambia, Sierra Leone, and Mauritius. Although Egypt, like Tripoli, is nominally under the Turkish rule, it is actually under British suzerainty. The Kongo Free State now belongs to Belgium. Abyssinia and Morocco are the chief native African independent States.

Commercial Conditions.—The annual commerce of Africa amounts to over $700,000,000, of which $429,000,-

NATIVE KAFFIR HUTS

A MOHAMMEDAN TEMPLE

GENERAL VIEW OF KIMBERLY

A STREET IN CAPE TOWN

A CAPE TOWN WHARF

TOWN HALL, PORT ELIZABETH

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SOUTH AFRICA

000 represents the value of the imports. Necessarily in so large an area with so many tribes and peoples who keep no records of their transactions, a considerable amount of commerce must pass without being recorded in any way.

Railroad development in Africa has been rapid in the past few years and seems but the beginning of a great system which must contribute to the rapid development, civilization, and enlightenment of the "Dark Continent." Already railroads run N. from Cape Colony about 1,500 miles and S. from Cairo about 1,200 miles, thus completing 2,700 miles of the proposed "Cape to Cairo" railroad, while the intermediate distance is about 3,000 miles. At the N. numerous lines skirt the Mediterranean coast, especially in the French territory of Algeria and in Tunis, aggregating about 2,500 miles; while the Egyptian railroads are, including those under construction, about 1,500 miles in length. Those of Cape Colony are over 3,000 miles in length, and those of Portuguese East Africa and the Transvaal are another 1,000 miles in length. Including all of the railroads constructed or under actual construction, the total length of African railways is nearly 12,500 miles, or half the distance around the earth. A large proportion of the railways thus far constructed are owned by the several colonies or states which they traverse, about 2,000 miles of the Cape Colony system and nearly all of that of Egypt belonging to the state.

That the gold and diamond mines of South Africa have been and still are wonderfully profitable is beyond question. The Kimberley diamond mines, about 600 miles from Cape Town, now supply 98 per cent. of the diamonds of commerce, though their existence was unknown prior to 1867, and the mines have thus been in operation but about 30 years. It is estimated that $350,000,000 worth of rough diamonds, worth double that sum after cutting, have been produced from the Kimberley mines since their opening in 1868–1869, and this enormous production would have been greatly increased but for the fact that the owners of the various mines there formed an agreement to limit the output so as not to materially exceed the world's annual consumption.

Equally wonderful and promising are the great Witwatersrand gold fields of South Africa, better known as the Johannesburg mines. Gold was discovered there in 1883, and in 1898 before the Boer War, which temporarily suspended work, the annual yield had reached over $55,000,000. Since the opening of the 20th century, the development of the principal European colonies has progressed more rapidly than previously, notwithstanding the Herreros war in German S. W. Africa, and the maladministration of the Congo Free State. The projection of railroads into the interior from seaboard towns, many to eventually connect with the Cape to Cairo route, is a powerful factor in internal development. On that line, at the great Victoria Falls of the Zambesi River, a cantilever bridge, 560 ft. long, built across the gorge by the American Cleveland Bridge Co., was opened in 1905. Works, costing $3,000,000, develop electric power at the falls and operate railroads, copper and coal mines, within a radius of 600 miles.

Agamemnon, king of Mycenæ and Argos, son of Atreus and Eriphyle, brother of Menelaus and commander-in-chief of the Grecian army at the siege of Troy. Returning from Troy, Agamemnon was treacherously murdered by his wife; who, during his absence, had formed an attachment with Ægisthus, son of the noted Thyestes. This catastrophe is the subject of the "Agamemnon" of Æschylus, one of the most sublime compositions in the range of the Grecian drama.

Agami, a bird, called also the trumpeter from the sound which it emits. It is about the size of a large fowl, is kept in Guiana, of which it is a native, with poultry, which it is said to defend, and shows a strong attachment to the person by whom it is fed.

Agape, a love feast, a kind of feast held by the primitive Christians in connection with the administration of the sacred communion.

Agapemone, the name given by the Rev. Henry James Prince, a clergyman who seceded from the English Church, to a religious society founded

on the principle of a community of goods, which he established at Charlinch, near Taunton, England, in 1845. New attention was called to this sect in September, 1902, when J. H. Smyth Piggott, successor to Prince, publicly declared in the church of the sect at Clapham, near London, that he, in his own person, was Christ, who had come again, and was received as such by his congregation. An angry mob sought to attack him, but he was protected by the police.

Agassiz, Alexander, an American zoölogist and geologist, son of J. L. R. Agassiz, born in Neuchâtel, Switzerland, Dec. 17, 1835. He came to the United States with his father in 1849; graduated from Harvard in 1855; and received the degree of B. S. from the Lawrence Scientific School in 1857. In 1859 he went to California as assistant on the United States Coast Survey. From 1860 to 1865 he was assistant curator of the Museum of Comparative Zoology at Harvard University; and, from 1866 to 1869, superintendent of the Calumet and Hecla mines, Lake Superior. On the death of his father in 1873, he was appointed curator of the Museum of Comparative Zoology, holding that position until he resigned in 1885. In 1900 he completed a series of deep sea explorations for the United States government. His chief works are "List of Echinoderms" (1863); "Exploration of Lake Titicaca" (1875–1876); "Three Cruises of the Blake" (1880). He died at sea, March 28, 1910.

Agassiz, Jean Louis Rodolphe, a Swiss naturalist; born in Motier, Switzerland, May 28, 1807. In 1846 he came to the United States on a lecturing and exploring tour. The professorship of zoölogy and geology in Harvard College was offered him in 1847, and as he had previously been offered the use of the United States survey vessels for exploring purposes he accepted the offer. While at Harvard he wrote several volumes, some of which were of a popular nature, but most of them were devoted to scientific research.

Among his more important works were: "Principles of Zoölogy," in connection with Dr. A. Gould (1848); "Lake Superior, its Physical Character" (1850); "Contributions to the Natural History of the United States" (4 vols. 1857–1862); "Zoölogie Générale" (1854); "Methods of Study in Natural History" (1863). His contributions to the development of the principles of natural science in his special departments are very numerous and of high authority. In 1855 he was enabled by the liberality of Nathaniel Thayer to make, for the sake of his failing health, a long-contemplated voyage to Brazil. He was accompanied by his wife, who wrote an account of the voyage. In 1871 he visited the S. shores both of the E. and of the W. coast of North America. After some years of unsuccessful efforts to get a government marine station established, he was enabled by private munificence to fit up one on Penekese Island in Buzzard's bay. Agassiz's last work was the organization of this establishment, of which he wrote an account in 1873 to the British Association. He died in Cambridge, Mass., Dec. 14, 1873.

His widow, Elizabeth Cary Agassiz, was born in Boston, Mass., in 1823; died June 27, 1907. She closely identified herself with her husband's scientific work, accompanying him on many of his travels, and supplementing his researches with her own literary work. Probably she will be best remembered for her early agitation for the collegiate education of women, and as the president of the Harvard Annex, now Radcliffe College, from its institution till November, 1899, when she resigned. Mrs. Agassiz published "Louis Agassiz; His Life and Correspondence," and was joint author, with Alexander Agassiz, of "Seaside Studies in Natural History."

Agate, a mineral classed by Dana as one of the cryptocrystalline varieties of quartz, some of the other minerals falling under the same category being chalcedony, carnelian, onyx, hornstone, and jasper.

Agave, an extensive genus of plants. The best-known species is the American aloe, called maguey by the Mexicans. Its hard and spiny leaves form impenetrable hedges. The fiber makes excellent cordage. The expressed juice is employed as a substitute for soap; also manufactured into a cider-

like liquor, called pulque by the Mexicans.

Age, any period of time attributed to something as the whole, or part, of its duration; as the age of man, the several ages of the world, the golden age.

Ageda, the name of a plain, 90 miles from Buda, where the Jewish rabbis held a meeting, in 1650, to debate whether the Messiah had come; the question was decided in the negative.

Agesilaus, King of Sparta (397–360 B. C.), was elevated to the throne chiefly by the exertions of Lysander. He was one of the most brilliant soldiers of antiquity. He died in his 84th year.

Agincourt, now **Azincourt,** a small village in the center of the French department of Pas-de-Calais, celebrated for a bloody battle between the English and French, Oct. 25, 1415. The battle lasted three hours, and was a signal victory for the English, due mainly to the archers.

Agnew. Cornelius Rea, an American physician, born in New York, Aug. 8, 1830; Professor of Diseases of the Eye and Ear in New York College of Physicians and Surgeons. He was a graduate of Columbia College, and later studied in Europe; was surgeon-general of the State of New York at the beginning of the Civil War, when he became medical director of the New York State Volunteer Hospital. As member of the United States Sanitary Commission, he contributed largely to its success. In 1868, he founded the Brooklyn Eye and Ear Hospital. He was interested in the public schools of New York; became founder of the Columbia College School of Mines, and, in 1874, one of the trustees of the college. His writings are chiefly monographs on diseases of the eye and ear. He died April 8, 1888.

Agnew, David Hayes, an American surgeon and medical writer, born Nov. 24, 1818; for many years Professor of Surgery at the University of Pennsylvania. He died 1892.

Agnosticism, a word used by Professor Huxley, to express the thought, that beyond what man can know by his senses, or feel by his higher affections, nothing can be known. Facts, or supposed facts, both of the lower and the higher life, are accepted, but all inferences deduced from these facts as to the existence of an unseen world, or of beings higher than man, are considered unsatisfactory, and are ignored. Agnostics, positivists, and secularists have much in common, and many people exist to whom any one of the three names might be indifferently applied.

Agouti, a South American animal. The agoutis live for the most part upon the surface of the ground, not climbing nor digging to any depth; and they commonly sit upon their haunches when at rest, holding their food between their forepaws, in the manner of squirrels. By eating the roots of the sugar-cane, they are often the cause of great injury to the planters. The ears are short, and the tail rudimentary. The animal is nearly 2 feet long. It is found in Guiana, Brazil, Paraguay, and some of the Antilles. It feeds voraciously on vegetable food.

Agra. (1) A former division of British India; now a part of the United Provinces of Agra and Oudh; area, 83,198 square miles; pop. (1901) 34,858,705. (2) The capital of Agra district, on the right bank of the Jumna, 139 miles S. E. of Delhi, by rail, and 841 miles N. W. of Calcutta. The city is considered especially sacred through Vishnu's incarnation there as Parasu Rama. Pop. (1901) 188,300.

Agrarian, as adjective (1) general, pertaining to fields or lands; (2) special, pertaining to laws or customs, or political agitation in connection with the ownership or tenure of land.

The agrarian laws, in the ancient Roman republic, were laws of which the most important were those carried by C. Licinius Stolo, when tribune of the people, in B. C. 367. The second rogation, among other enactments, provided (1) that no one should occupy more than 500 *jugera* (by one calculation, about 280, and by another, 333, acres) of the public lands, or have more than 100 large and 500 small, cattle grazing upon them; (2) that such portion of the public lands above 500 *jugera* as was in possession

of individuals should be divided among all the plebeians, in lots of seven *jugera*, as property; (3) that the occupiers of public land were bound to employ free laborers, in a certain fixed proportion to the extent of their occupation. When, at a later period, efforts were made to revive the Licinian rogations, such opposition was excited that the two Gracchi lost their lives in consequence, and this, with their other projects, proved abortive. It is important to note that the land with which the Licinian, or agrarian, laws dealt was public land, belonging to the State, and not, as is popularly supposed, private property. The homestead laws of the United States are inspired by a purpose similar to the old Roman agrarian agitation — the distribution of lands among the people. "Agrarian" in Germany is the name of a political party which seeks to secure special protection for agricultural products.

Agricola, Cnæus Julius, Roman statesman and general, born in 37 A. D. He went to Britain in 77 A. D., strengthened the Roman power, and extended it to the Scotch Highlands. He died in 93.

Agricola, John, a polemical writer of celebrity, born at Eisleben, Saxony, in 1492; died at Berlin, in 1566. From being the friend and scholar, he became an antagonist, of Martin Luther. He entered into a dispute with Melanchthon, advocating the doctrine of faith in opposition to the works of the law, whence the sect of which he became leader received the name of Antinomians.

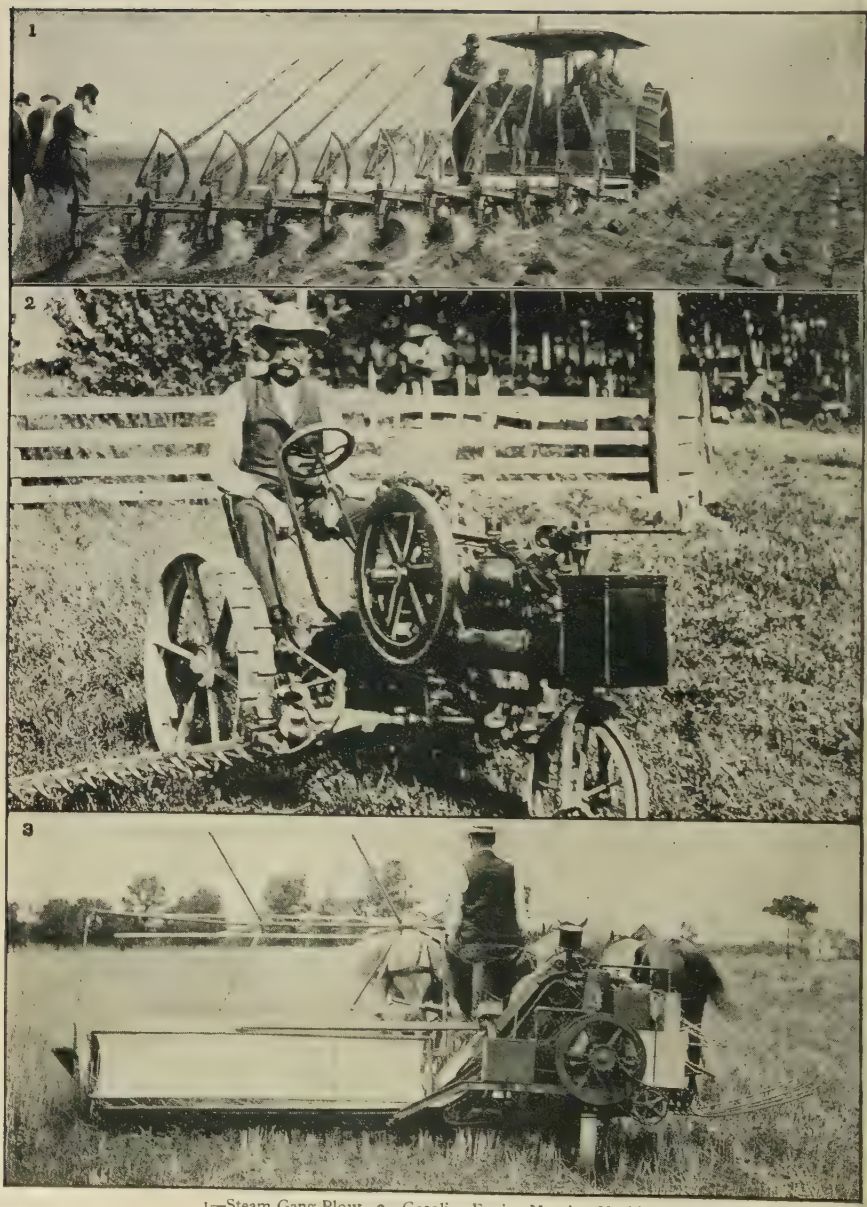
Agricola, Rudolphus, the foremost scholar of the "New Learning," in Germany, was born near Groningen, in Friesland, Aug. 13, 1443. His real name, Roelof Huysmann (husbandman), he Latinized into Agricola; and from his native place he was also called Frisius, or Rudolf of Groningen. He died at Heidelberg, Oct. 28, 1485.

Agricultural Chemistry, that department of chemistry which treats of the composition of soils, manures, plants, etc., with the view of improving practical agriculture. The science is comparatively young. The most important bases of agricultural chemistry to-day are the experimental stations which are found in agricultural colleges, and in many of the universities in the United States and elsewhere. The literature on the subject is particularly rich.

Agricultural Colleges, educational institutions, chiefly under government patronage, for the promotion of scientific farming. In 1862, the United States Congress passed a so-called land grant act, by which land scrip, representing 30,000 acres for every Senator and Representative, was issued to the States and Territories, the object being to provide a special fund for the creation of State and Territorial agricultural colleges. The land granted to the States by the act of 1862 amounted to somewhat more than 10,000,000 acres, which by 1900 had produced a permanent fund of $10,262,944, with lands still unsold of the estimated value of $4,062,850, the entire proceeds being in round numbers somewhat over $14,250,000. To this have been added other land-grant funds amounting to $1,441,577; other permanent funds, $14,442,194; farms and grounds, $5,543,108; buildings, $16,274,000; apparatus, $1,955,859; machinery, $1,373,696; libraries, $1,854,942; and miscellaneous equipment, $1,997,690, making a grand total of permanent plant of the value of $58,944,137. On this basis 65 of these institutions have been established.

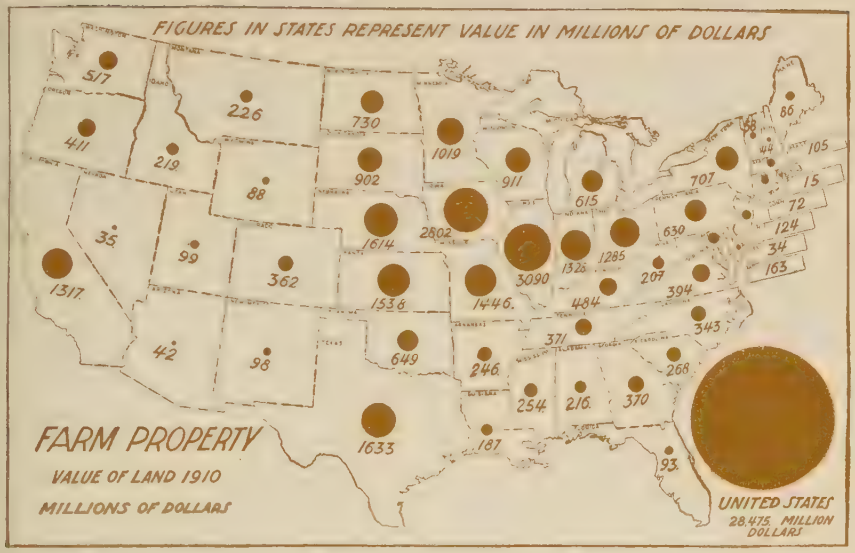
Three of the land-grant colleges in Southern States (Mississippi, North Carolina, and South Carolina), have recently established courses of study in textile industry, with special reference to the manufacture of cotton goods. These institutions have provided buildings of regular cotton-mill design, equipped with machinery and apparatus for textile work.

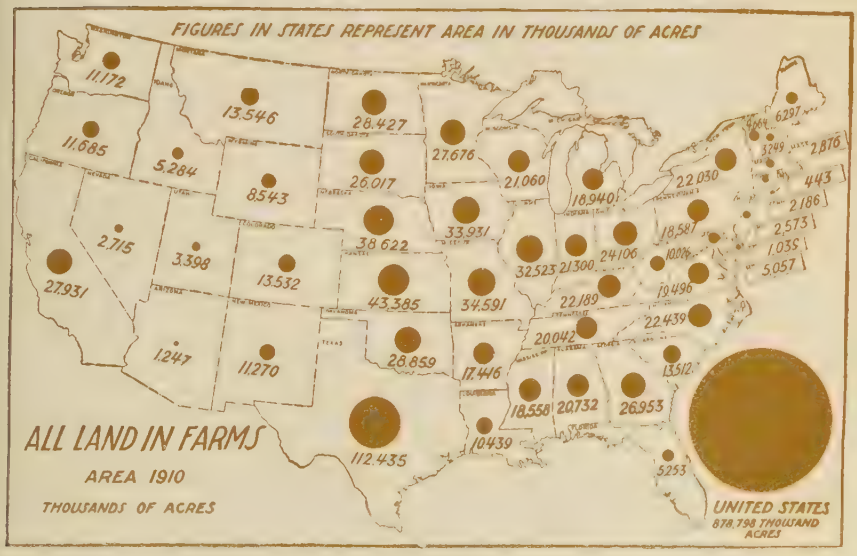
The Act of 1862 was supplemented by a second (Aug. 30, 1890), so that under both acts, each State and Territory having an agricultural college receives an appropriation annually from the United States treasury for its support. The past few years have witnessed the establishment of short courses of study in agriculture, dairying, mechanic arts, household economy, etc., for persons who cannot take a regular course.



1—Steam Gang Plow 2—Gasoline Engine Mowing Machine
3—Harvester with Gasoline Engine operating the Binder

4—Steam Harvester, Thresher and Cleaner 5—Automatic Cotton Picker and Cleaner
6—Ensilage Cutting and Packing


FIGURES IN STATES REPRESENT VALUE IN MILLIONS OF DOLLARS
517
226
730
1019
86
411
219
902
911
105
88
707
15
615
72
35
1614
2802
630
124
99
1326
1285
34
362
3090
207
163
1317
1536
1446.
484
394
371
343
42
98
649
246
268
254
216
370
FARM PROPERTY
VALUE OF LAND 1910
MILLIONS OF DOLLARS
1633
187
93
UNITED STATES
28.475 MILLION
DOLLARS


FIGURES IN STATES REPRESENT AREA IN THOUSANDS OF ACRES
11.172
13.546
28.427
6297
11.685
27.676
3749
2.876
5.284
26.017
21.060
22.030
18.940
443
8.543
2.186
33.931
18.581
2.573
2.715
38.622
24.106
1.035
3.398
32.523
21.300
10.076
5.057
27.931
13.532
43.385
34.591
19.496
22.189
22.439
1.247
11.270
20.042
28.859
17.446
13.512
18.558
20.732
26.953
ALL LAND IN FARMS
AREA 1910
THOUSANDS OF ACRES
112.435
10.439
5.253
UNITED STATES
878.798 THOUSAND
ACRES

Agriculture, the art of cultivating the ground more especially with the plow and in large areas or fields, in order to raise grain and other crops for man and beast; including the art of preparing the soil, sowing and planting seeds, removing the crops, and also the raising and feeding of cattle or other live stock. This art is the basis of all other arts, and in all countries is coeval with the first dawn of civilization. At how remote a period it must have been successfully practised in Egypt, Mesopotamia, and China we have no means of knowing. Egypt was renowned as a wheat country in the time of the Jewish patriarchs, who themselves were keepers of flocks and herds rather than tillers of the soil. During the Middle Ages agriculture advanced but slowly, the tools remained unchanged, and the work was done laboriously and by rule of thumb, without thought of scientific methods. The first treatise on farming in English, was published in 1534, but it was not until more than 200 years later that real progress was made, after the introduction of clover into English fields. Potatoes were cultivated in the 16th century, and early in the 17th the Dutch gave particular attention to the cultivation of root crops. So each decade saw some improvement and growth, but it was not until the development of the virgin lands of the United States called for improved machinery and methods, that agriculture advanced with leaps and bounds. Under scientific culture, old lands are reclaimed and made as fruitful as ever; irrigation and the choice of crops suited to the soil, bring into profitable use lands once so hopeless as to be called desert, and the world's food supply promises to keep up with the growth of population.

As a result of the new conditions, to be a thoroughly trained and competent agriculturist requires a special education, partly theoretical, partly practical. In particular, no scientific cultivator can now be ignorant of agricultural chemistry, which teaches the constituents of the various plants grown as crops, their relation to the various soils, the nature and function of different manures, &c. In most countries there are now agricultural schools or colleges supported by the state. In the United States nearly all the states have colleges, or departments of colleges, devoted to the teaching of agriculture, and large allotments of public land have been made for their support. In Germany such institutions are numerous, and highly efficient. For teaching agriculture practically model farms are commonly established. In many countries too there is a ministry of agriculture, one of the important departments of government as in the United States, where latest available statistics show the quantities of the chief crops raised each year to be approximately: wheat, 737,189,000 bushels; corn, 2,772,376,000 bushels; rye, 32,239,000 bushels; barley, 170,284,000 bushels; oats, 1,007,353,000 bushels; potatoes, 376,537,000 bushels; cotton, 13,241,799 bales (500 pounds); tobacco, 949,357,000 pounds, and hay, 64,938,000 tons.

Agriculture, Department of, an executive department of the United States Government, established by Congress in 1889; originally a bureau. It disseminates throughout the United States, by daily, monthly, and annual reports, the latest and most valuable agricultural information, and introduces and distributes new and desirable seeds, plants, etc. It includes the Weather Bureau, Bureau of Animal Industry, an herbarium, a museum, a laboratory, propagating gardens, a library, and other useful adjuncts.

Agrippa II., Herod, tetrarch of Abilene, Galilee, Iturea and Trachonitis, born in 27 A. D. During his reign he enlarged Cæsarea Philippi and named it Neronias, in honor of Nero. He also beautified Jerusalem and Berytus, making the latter his capital. Maintained in his power by the Romans, he remained faithful to their interests, and tried to dissuade the Jews from rebelling. After the fall of Jerusalem he retired to Rome, where he died. Before him the Apostle Paul made his memorable defense.

Aguardiente, a popular spirituous beverage of Spain and Portugal, a kind of coarse brandy, made from red wine, from the refuse of the grapes left in the wine press, etc., and generally flavored with anise. The same name is also given to a Mexican alcoholic drink distilled from the fermented juice of the agave.

Ague, an intermittent fever, in whatever stage of its progress or whatever its type. A person about to be seized by it generally feels somewhat indisposed for about a fortnight previously. Then he is seized with a shivering fit, which ushers in the cold stage of the disease. This passes at length into a hot stage, and it again into one characteristic of great perspiration, which carries off the disorder for a time. The remedy is quinine or some other anti-periodic.

Aguilar, Grace, an English novelist, born at Hackney, June 2, 1816; was the daughter of Jewish parents of Spanish origin. She died in Frankfort-on-the-Main, Sept. 16, 1847.

Aguinaldo, Emilio, a leader in the Philippine insurrection of 1896, and their chief in the Spanish-American War of 1898. He was born at Imus, in the island of Luzon, in 1870, and received all the advantages of such educational facilities as existed in Manila under the Spanish rule. In course of time he became mayor of Cavite Viejo, and because of the interest he took in the troubles of 1896, was forced to go to Hong Kong, remaining there in exile on condition of a considerable payment by Spain. He returned in 1898, and succeeded in raising a revolt against Spain. He organized a provisional government in June 1898, of which he became president later. During the next year he attacked the American troops, and after many conflicts was captured by a stratagem, and in 1901 took the oath of allegiance to the United States and ceased to be a troublesome factor in the Philippine problem. He proved himself to be a man of great cunning, of marked ability, and of extraordinary personal magnetism.

Ahasuerus, a King of Persia, the husband of Esther, to whom the Scriptures ascribe a singular deliverance of the Jews from extirpation, which they commemorate to this day by the annual feast of Purim.

Ahmedabad, (better Ahmadabad), chief town of a district in Guzerat, India, second among the cities of the Province of Bombay. Pop. 148,412.

Ahriman, a Persian deity, the demon or principle of evil, the principle of good being Oromasdes or Ormuzd.

Ai, a species of sloth, with three toes, on each foot, in this respect differing from the unau, which has but two. It extends from Brazil to Mexico.

Ailanthus, Aliantus, or **Alianthus,** a tree introduced into the United States in 1784. During the first half-dozen years it outstrips almost any other deciduous tree, the leading stems grow 12 or 15 feet in a single season. In four or five years, therefore, it forms a bulky head, but after that period it advances more slowly. The odor of ailanthus trees is disgusting to many persons, and for this reason they are not so much in favor as when first introduced.

Ainu, or **Aino,** the name of an uncivilized race of people inhabitating the Japanese island of Yezo, as also Saghalien, and the Kurile Islands, and believed to be the aboriginal inhabitants of Japan. They do not average over 5 feet in height, but are strong and active. They have matted beards 5 or 6 inches in length, and black hair which they allow to grow till it falls over their shoulders. Their complexion is dark brown, approaching to black. They worship the sun and moon, and pay reverence to the bear. They support themselves by hunting and fishing.

Air, the gaseous substance of which our atmosphere consists, being a mechanical mixture of 79.19 per cent. by measure of nitrogen and 20.81 per cent. of oxygen. The latter is absolutely essential to animal life, while the purpose chiefly served by the nitrogen appears to be to dilute the oxygen. Oxygen is more soluble in water than nitrogen, and hence the air dissolved in water contains about 10 per cent. more oxygen than atmospheric air. The oxygen therefore available for those animals which breathe by gills, is very much diluted with water.

Air-brake. See BRAKE.

Air-engine, an engine in which air heated, and so expanded, or compressed air is used as the motive power. They may be said to be essentially similar in construction to the steam-engine, though the expansibility of air by heat is small compared with the expansion that takes place when water is converted into steam. Engines working by compressed air have been found very useful in mining, tunneling, &c.,

and the compressed air may be conveyed to its destination by means of pipes. In such cases the waste air serves for ventilation and for reducing the oppressive heat.

Air-gun, an instrument for the projection of bullets by means of condensed air, generally in the form of an ordinary gun.

Air-pump, an apparatus by means of which air or other gas may be removed from an inclosed space; or for compressing air within an inclosed space. An ordinary suction-pump for water is on the same principle as the air-pump; indeed, before water reaches the top of the pipe the air has been pumped out by the same machinery which pumps the water. An ordinary pump consists essentially of a clyinder or barrel, having a valve opening from the pipe through which water is to rise and a valve opening into the outlet pipe, and a piston fitted to work in the cylinder.

Airships. See AERONAUTICS; AEROPLANE; BALLOON; FLYING MACHINE.

Aix-la-Chapelle (Ger. Aachen), the capital of a district in Rhenish Prussia, situated in a fertile hollow, surrounded by heights, and watered by the Wurm, 39 miles W. by S. of Cologne. Pop. 135,250.

Ajaccio, the chief town of the Island of Corsica, which forms a Department of France. It is the handsomest city of Corsica, and the birthplace of Napoleon I., whose house is still to be seen. Pop. 18,846.

Ajax, the name of two heroes of the Trojan War. Ajax, son of Telamon, King of Salamis, was next in warlike prowess to Achilles.

Aked, Charles F., Baptist minister, born in Nottingham, England, in 1864. He visited the U. S. several times, and in 1907 became pastor of the Fifth Ave. Baptist Church, N. Y. C.

Akron, city and capital of Summit county, Ohio; on the Ohio canal and the Baltimore & Ohio and other railroads; 40 miles S. E. of Cleveland. It is the trade center of a large farming and manufacturing section; has one of the largest private printing offices in the world and extensive manufactories of rubber goods; is the seat of Buchtel College (Universalist); and has a property valuation exceeding $27,500,000. Pop. (1910) 69,067.

Akers, Benjamin Paul, an American sculptor, born in 1825. Studied in Florence and was especially noted for the rapidity of his work. He died in May, 1861.

Alabama, a State in the South Central Division of the North American Union; bounded by Tennessee, Georgia, Florida, Mississippi, and the Gulf of Mexico; gross area, 52,250 square miles, admitted into the Union, Dec. 14, 1819; seceded, Jan. 11, 1861; readmitted, June 25, 1868; number of counties, 66; pop. (1900) 1,828,697; (1910) 2,138,093; capital, Montgomery.

The State has large wealth in its mineral resources, which include coal, iron, asbestos, asphalt, pottery and porcelain clays, marble, granite, phosphates, natural gas, gold, silver, and copper. The most valuable of these at present are coal and iron. The coal is all bituminous, and the iron is red and brown hematite.

In the S. part of the State the soil is a light alluvial and diluvial; in the central, the cotton belt, limestone and chalk lands predominate; and in the N. part, which contains the Tennessee valley, there are very rich mineral lands. Besides the agricultural, mineral, and grazing lands, there are large tracts of valuable yellow pine forests. The most valuable productions are cotton and corn.

The school population is estimated at 621,600, of whom nearly 350,000 are enrolled in the public schools, and over 222,000 are in daily attendance. There are over 7,000 public schools, white and colored pupils being taught separately; 7,500 teachers; public school property valued at $1,500,000. For higher instruction, there are 48 public high schools; 66 private secondary schools; 6 public and 3 private normal schools; 9 universities and colleges for men and for both sexes; 9 colleges for women; and a State Agricultural and Mechanical College at Auburn. The principal universities and colleges are the University of Alabama (opened 1831; non-sectarian); the Tuskegee Normal and Industrial Institute (1881); Blount College (1890; non-sectarian); Howard College (1841; Baptist); Southern Uni-

versity (1859; Methodist Episcopal, South); Lafayette College (1885; non-sectarian); Lineville College (1890; non-sectarian); St. Bernard College (1892; Roman Catholic); Alabama Baptist Colored University (1878; Baptist); Bailey Springs University (1893; non-sectarian); Judson Female Institute (1839; Baptist); Isbell College (1849; Presbyterian); Athens Female College (1842; Methodist Episcopal, South); and the Alabama Conference Female College (1855; Methodist Episcopal).

The strongest denominations numerically in the State are the Baptist; Methodist Episcopal, South; Roman Catholic; Methodist Episcopal; and the Protestant Episcopal.

The total length of railroads within the State, Jan. 1, 1900, was 4,226 miles, of which 141.35 miles were constructed during the previous year stimulated by the great development in the coal, iron, and manufacturing industries. A. ranks fifth among coal-producing states with an annual output of nearly 10,000,000 short tons; iron yields nearly 3,000,000 tons. The cotton crop is over 1,010,000 bales annually.

The new constitution adopted in 1901, restricts the suffrage in several ways, and provides for the election of State officers and legislators once every four years.

Alabama Claims, a series of claims made in 1871 by the United States against the English Government for damages done to shipping during the Civil War, after a formal discussion between the two governments in 1865, and fruitless conventions for their settlement in 1868 and 1869. These damages were inflicted chiefly by the "Alabama," an armed vessel of the Confederate States, which was fitted out in a British port and permitted to sail in violation of existing international law. A tribunal, created in 1871 to pass upon these claims, held its sessions in Geneva, Switzerland, during the year 1872, and awarded the United States the sum of $15,500,000 in gold, in satisfaction of all claims at issue. The Geneva tribunal was important as establishing an example of arbitration in place of war in the settlement of international differences, which, in this case, barely averted a war, and in defining the attitude of neutrals toward nations at war.

Alabama, The, a Confederate cruiser which devastated American shipping during the Civil War. She was a bark-rigged steamer of 1,040 tons, built under secret instructions at Birkenhead, England. Her destination was suspected by the United States minister, but when orders for her detention were finally obtained, she had departed (July 31, 1862). She made for the Azores, where she was equipped and manned by an English crew, under the command of Capt. Raphael Semmes, of Maryland. She then proceeded to capture and burn vessels bearing the American flag, and the destruction wrought in less than two years amounted to 65 vessels, and about $4,000,000 in property. In June, 1864, she put into Cherbourg, France, for repairs. Here she was intercepted by the Federal corvette "Kearsarge," Captain Winslow, and, after an hour's severe battle, the Alabama was sunk. The vessel was virtually a British privateer, and the course of the British authorities in permitting her to leave on her mission of piracy showed connivance and sympathy with the Confederacy (see ALABAMA CLAIMS preceding). When the Alabama was sinking, a private British yacht, in rescuing survivors (including Captain Semmes), also saved them from capture by the Federalists.

Alabaster, In mineralogy, massive gypsum, white, delicately shaded or banded.

Aladdin, the hero of an Arabian Nights' tale. A poor boy in China, he secures possession of a lamp and ring possessing magical powers. Rubbing the lamp brings to the service of the owner the powers of the slave of the lamp, who gratifies every desire. The lamp is lost, but the slave of the ring enables Aladdin to recover it, and he lives happily ever afterwards, enjoying wealth and health.

Alamo, The, a mission church at San Antonio, in what is now Bexar co., Tex.; converted into a fort. In 1836 it was occupied by about 150 of the revolutionists in the Texan War of Independence. Though attacked

BOUND FOR THE KLONDIKE

AT FOOT OF CHILKOOT PASS

HOME IN THE BRUSH

PROSPECTING FOR GOLD

BURNING DOWN A HOLE

GOLD MINERS AT WORK

Stereographs Copyright by B. L. Singley, N. Y.

ALASKA

by 4,000 Mexicans under Santa Ana, the Texans held it from Feb. 23 to March 6, when Santa Ana took it by storm. All but seven of the garrison perished, six of these being murdered after their surrender, and one man escaping to report the affair. In this garrison were the celebrated David Crockett and Col. James Bowie, inventor of the bowie-knife. The memory of this massacre became an incitement to the Texans in subsequent encounters, and "Remember the Alamo!" became a war-cry in their struggle for freedom.

Alarcon, Hernando, a Spanish navigator; flourished in the 16th century; leader of an expedition to Mexico, which set sail in 1540. He proved that California was a peninsula and not an island, as had been supposed previously. He penetrated in boats a considerable distance up the Colorado river. On his return to New Spain he made a valuable map of the California peninsula.

Alaric, a celebrated conqueror, King of the Visigoths. In 410 he captured Rome, and his troops pillaged the city for six days, Alaric, who was an Arian Christian, like his people, forbidding his soldiers to dishonor women or destroy religious buildings. He died, the same year, at Cosenza, in Calabria, only 34 years of age. Legend tells that, to hide his remains from the Romans, they were deposited in the bed of the river Busento, and that the captives who had been employed in the work were put to death.

Alaska, an unorganized Territory in the Western Division of the North American Union, comprising the extreme northwestern part of the American continent; bounded by the Arctic and Pacific Oceans, Bering Sea, British Columbia, and the Northwest Territories of Canada; gross area, as far as determined, 581,107 square miles; purchased from Russia, in 1867, for $7,200,000; given a territorial district government in 1884. The population by the 1900 census was 63,592, and by that of 1910, 64,356, showing a gain of only 764.

Gold, copper, coal and iron deposits abound and with the building of railroads, smelters and towns, in 1906-07, the yield of valuable minerals has risen in value to over $20,000,000 annually.

The waters of Alaska contain over 100 species of food fish, but the principal fisheries are those confined to salmon, cod and herring. In connection with the Alaska coast there are at least 125,000 square miles of cod fishing banks, the greater part of which still awaits development. Whales and halibut also abound, but as yet they do not support distinct industries.

When the United States acquired this region, and till gold mining set in, fur sealing was the only industry. So far there has been but little done in the line of systematic farming. Congress made an appropriation in 1897 to investigate agricultural possibilities. Oats, wheat, rye, barley, and buckwheat, among cereals; potatoes, turnips, peas, onions, and many minor vegetables; a variety of fruit and excellent hay are grown to advantage.

The government is of a tentative character, under the authority of a governor appointed by the President for a term of four years, at an annual salary of $3,000. There are judicial, customs, and military officers, and, excepting where otherwise provided, the general laws are those established in Oregon.

Alaska was discovered by Bering in 1741, and Russian settlements were made to a considerable distance southward. In 1799 the Territory was granted to a Russian company by the Emperor Paul VIII.

Alaska-Yukon-Pacific Exposition, an international exhibition held at Seattle, Wash., from June 1 to Oct. 16, 1909, to exploit the resources of Alaska and Yukon territories.

Albani, Marie Emma (Lajeunesse), a dramatic soprano and opera singer, born in 1852, at Chambly, near Montreal, Canada. After studying with Lamperti, at Milan, she made her debut at Messina (1870), in "La Sonnambula," under the name Albani, in compliment to the city of Albany, where her public career began. In 1878 she married Ernest Gye, of the Covent Garden Theater.

Albania, the name given to a region of West European Turkey be-

tween the Adriatic Sea, Greece, Macedonia, and Montenegro; length, about 290 miles; breadth, from 40 to 100 miles; principal seaports, Scutari, Durazzo, Avlona, and Prevesa; principal interior towns, Janina and Prisrend; pop. estimated, 1,000,000. The people speak a language of their own, of Indo-European stock; are divided into Ghegs in the north and Tosks in the south; and are mostly Mohammedans. Albania comprises parts of ancient Epirus, Illyria; and Chavnia. It long resisted the Turks; was conquered by them in 1478; and later frequently revolted for freedom. In the Balkan War of 1912, harassed by Bulgaria, Greece, and Servia, it appealed to the Great Powers for protection and set up an independent provisional government, and in December, 1913, Prince Wilhelm of Wied was recognized by the Powers as sovereign of the new kingdom.

Alban, St., the first Christian martyr in Great Britain, lived in the 3d century. After having served seven years as a soldier under the Emperor Diocletian, he returned to Britain, embraced Christianity, and suffered martyrdom in the great persecution of Diocletian.

Albany. A city of the United States, capital of the State of New York, with a population (1910) of 100,253. Settled by the Dutch in 1610-14. The State capitol is one of the grandest buildings in America. Albany has a university, an observatory, and a State Library with over 90,000 volumes.

Albany Congress, an assembly of representatives of the most important British North American colonies, which was called together in 1754 by the British Government to consult in regard to the threatening French war. Two plans were proposed: First, a league with the Indians, which was carried out, and, second, a proposal offered by Franklin for a political union. In this a common president was proposed and a great council, representing the different colonies. This plan was rejected by the British crown, because it gave too much power to the colonies, and by the colonies because it gave too much power to the crown. The significance of this congress lies in the fact that it stimulated the union of the colonies which was afterward accomplished.

Albany, The, one of two cruisers built in Newcastle, England, for the Brazilian Government and purchased by the United States Government just before the declaration of war against Spain in 1898.

Albatross, a genus of natatorial birds. It is one of the largest of marine birds, as its wings, when extended, measure from 10 to 12 feet from tip to tip.

Albay, a province in the S. E. part of Luzon, Philippine Islands, and the richest hemp-growing district on the island. Pop. (1903) 239,434.

Albert I., Margrave of Brandenburg, surnamed the BEAR, from his heraldic emblem, was the son of Otto the Rich, Count of Ballenstädt. In 1164 he went on a crusade to the Holy Land. He died in 1170. The origin of Berlin, Kölln, Aken on the Elbe, and other towns, is attributed to the colonies founded by him.

Albert, Prince (Albert Francis Augustus Charles Emmanuel), Prince of Saxe-Coburg-Gotha, husband of the late Queen Victoria, of England; the second son of Ernest I., Duke of Saxe-Coburg, and of his first wife Louise, only daughter of the Duke of Saxe-Gotha; born Aug. 26, 1819. He died Dec. 14, 1861, after a short illness, and was buried in St. George's Chapel, Windsor, whence his remains were afterward removed to the mausoleum built by the queen at Frogmore.

Alberta, a n. w. province of Canada (the former Territory of Alberta with parts of Athabaska and Assiniboia, organized 1881), admitted to the Federation, Sept. 1, 1905. It lies n. of Montana, U. S., and e. of British Columbia, with the Rocky Mountains on the w. Area, 253,540 sq. m.; pop. (1910) 321,862. From the peaks 11,000 to 13,000 ft. high, with abundant forests, coal and other minerals in the foothills, the land slopes n., e., and s., to well-watered rolling prairies, containing the great cattle ranges of Canada, of which the chief centres are McLeod, and Calgary, the capital. Sheep are raised in the south and cattle and horses in the north. Around the growing towns of Lethbridge and

Raymond, Mormons from Utah and Idaho, with irrigation works, have placed large tracts under wheat and beet cultivation, and facilitated by neighboring coal fields work flour and sugar mills, exporting the products. The Canadian Pacific R. R. Co. is placing 1,500,000 acres of land under irrigation between Calgary and Medicine Hat, and is offering advantageous inducements for practical farmers to settle in the province. In 1901–10 the population increased nearly 250,000.

Albert Coal or **Albertite,** a pitch-like mineral first discovered in Albert Co., New Brunswick. It occurs in the lower carboniferous group and is lighter in weight per bulk compared to coal; it is used for fine varnishes, for enriching gas, etc., and its selling price in Boston reached $45 per ton. It is not a true coal. It will ignite from a match and burn like a candle, leaving a fine, almost impalpable residue. It was named after Albert, Prince Consort.

Albert Edward, Prince of Wales, from 1841 to 1901, the name and title of Edward VII. (q. v.).

Alberti, Leone Battista, an eminent Italian architect, philosopher, writer on art, and poet; born in Venice, Feb. 18, 1404; died in Rome, April, 1472.

Albertus Magnus, or **Albert the Great,** Count of Bollstädt, Bishop of Ratisbon, a distinguished scholar of the 13th century; born in Lauingen, Suabia, in 1193, or according to some authorities in 1205. Among the sciences studied or illustrated by him were chemistry, botany, mechanics, optics, geometry, and astronomy. He fell into dotage some time previous to his death, in 1280. Albertus was probably the most learned man of his age, and of course did not escape the imputation of using magical arts and trafficking with the Evil One.

Albigenses, a religious sect opposed to the Church of Rome, coming first into prominence in the 12th century, and taking its name from Albiga, the old form of Albi, a city of Southern France, now capital of the department of Tarn. What their doctrines were has not been determined, as no formal statement of them was ever drawn up. They inveighed against the vices and worldliness of the clergy, and there was sufficient truth in their censures to dispose their hearers to believe what they advanced, and reject what they decried. They had increased very much toward the close of the 12th century in the S. of France, about Toulouse and Albi, and in Raymond, Count of Toulouse, they found a patron and protector. As the condemnation of their doctrines by the Church produced no effect, ecclesiastical officials were specially sent by the Pope to endeavor to extirpate the heresy. The assassination of the papal legate and inquisitor, Peter of Castelnau, in 1208, led to the proclamation of a crusade against them by Pope Innocent III., and after a struggle of many years, in which hundreds of thousands perished, they were virtually extirpated by the sword and the Inquisition.

Albinos, the name given to those persons from whose skin, hair, and eyes the dark coloring matter is absent. The skin of albinos, therefore, no matter to what race they belong, is of a pale milky hue, their hair is white, while the iris of their eyes is pale rose color. Their eyes are not well suited to endure the bright light of day, and they see best in shade or by moonlight. The peculiarity of albinism or leucopathy is not confined to the human race, having been observed in horses, rabbits, rats, birds, and fishes.

Albion, the oldest name by which the island of Great Britain was known to the Greeks and Romans.

Alboni, Marietta, an Italian contralto, born in Romagna, 1823. She made her debut as Orsini in "Lucrezia Borgia." After singing in Europe for some years, she made a successful tour of the United States. On the death of her husband, Count Pepoli, in 1866, she left the stage, and in 1877 she married M. Ziegir, a French officer. She died in France in 1894.

Albret, Jeanne d', daughter of Margaret, Queen of Navarre, born in 1528. She married Antoine de Bourbon in 1548; gave birth in 1553 to a son, who was afterward Henry IV. of France; and on the death of her father, in 1555, became Queen of Na-

varre. She lost her husband in 1562, and eagerly began to establish the Reformation in her kingdom. Being invited to the French court to assist at the nuptials of her son with Margaret of Valois, she suddenly expired, not without suspicion of having been poisoned. Died in 1572.

Albright, Jacob, an American minister of the Methodist Church, born in 1759. His work lay among the Germans of Pennsylvania. Becoming impressed with the decline of religious life and of the doctrines and morals of the surrounding churches, he began a work of reform in 1790. He traveled about the country at his own expense, preaching his mission, until he founded in 1800 the EVANGELICAL ASSOCIATION. He died in 1808.

Albuera, a village of Spain, in the province of Badajoz, on the Albuera river; 13 miles S. E. of Badajoz. Here (May 16, 1811) a British and Portuguese army of 32,500, under General Beresford, defeated in a sanguinary battle a French army of 23,000 under Marshal Soult, the total loss being 16,000, about equally divided.

Albumen, or **Albumin.** In chemistry, the name of a class of albuminoids that are soluble in water, as serum and egg albumen.

Albuminuria, a disease characterized by the presence of albumen in the urine. It may be acute or chronic. Acute albuminuria is a form of inflammation of the kidneys. Chronic albuminuria, the commoner and more formidable malady, arises from grave constitutional disorders. It is often attended by or produces dropsy. Whether acute or chronic, but especially when the latter, it is generally called Bright's disease, after Dr. Bright, who first described it with accuracy.

Albuquerque, Affonso d', "the Great," Viceroy of the Indies, was born in 1453, near Lisbon. Albuquerque landed on the Malabar coast in 1503, with a fleet and some troops; conquered Goa, which he made the seat of the Portuguese Government, and the center of its Asiatic commerce; and afterward Ceylon, the Sunda Isles, the Peninsula of Malacca, and (in 1515) the Island of Ormuz at the entrance of the Persian Gulf. He died at sea near Goa, Dec. 16, 1515.

Alcæus, a Greek lyric poet; native of Mitylene; flourished in the 6th century B. C. Of his poems we have only fragments.

Alcala de Henares, a town in Spain, Cervantes' birthplace, on the Henares, 21 miles E. of Madrid by rail. Here was printed in 1517, in six folio volumes, at an expense of 80,000 ducats, the great Complutensian Bible.

Alcazar, the name of many castles and palaces in Spain. Ciudad-Rodrigo, Cordova, Segovia, Toledo and

ALCAZAR IN SEGOVIA.

Seville have alcazars. The one at Seville is an imposing relic of the Arab dominion.

Alcibiades, a famous Grecian statesman and warrior, son of Clinias and Deinomache, born in Athens about 450 B. C. After a brilliant and erratic career, distinguished equally by great achievements and lack of moral principle he was assassinated in 404.

Alcohol, a colorless, inflammable liquid, of agreeable odor, and burning taste, termed also spirit of wine, and ethylic or vinic alcohol.

Alcohol, Denatured, alcohol for use in the industries, in which medicinal properties have been destroyed; authorized by Congress in 1905.

Alcott, Amos Bronson, an American philosophical writer and educator, one of the founders of the transcendental school of philosophy in New England, born in Wolcott, Conn., Nov. 29, 1799. He died in Boston, March 4, 1888.

Alcott, Louisa May, an American author, daughter of the preceding, born in Germantown, Pa., Nov. 29, 1832. She died in Boston, Mass., March 6, 1888. Few writers are more popular with children than Miss Alcott.

Alcuin, an English ecclesiastic, born at York in 735. He died in 804. He made with his own hand a copy of the Scriptures, which he presented to Charlemagne, and which became of great assistance to later editors.

Alden, Henry Mills, an American editor and prose writer, born at Mount Tabor, Vt., Nov. 11, 1836. He was graduated at Williams College and Andover Theological Seminary; settled in New York in 1861, became managing editor of "Harper's Weekly" in 1864, and editor of "Harper's Monthly Magazine" in 1868. He has published "The Ancient Lady of Sorrow," a poem; "God in His World"; etc.

Alden, John, a magistrate of the Plymouth colony, born in 1599. His name is familiarized by the poem of Longfellow, "The Courtship of Miles Standish." He was originally a cooper of Southampton, was employed in making repairs on the ship "Mayflower," and came over in her with the Pilgrim Fathers. By some accounts he was the first to step ashore at Plymouth. In Longfellow's poem he is in love with and eventually marries Priscilla, with whom he had previously pleaded the cause of Miles Standish. He was for over 50 years a colonial magistrate. He died in 1687.

Alden, William Livingston, an American humorous writer and journalist, born at Williamstown, Mass., Oct. 9, 1837. He was for a time United States Consul-General at Rome. He died Jan. 14, 1908.

Alder, the common name for a genus of plants (alnus), of the oak family. In the Eastern United States it is a very common shrub, branching freely from the roots, and forming dense clumps along the banks of streams and in other wet places. On the W. coast it often attains a height of from 40 to 60 feet in favorable locations. It is found in temperate and cold regions.

Alderman, a title pertaining to an office in the municipal corporations of the United States and England.

Alderman, Edwin Anderson, an American educator, born in Wilmington, N. C., May 15, 1861. In 1896 he was chosen President of the University of North Carolina; in 1900, of Tulane University (New Orleans); in 1904, of the University of Virginia.

Alderney, a British island in the English channel.

Aldershot Camp, a permanent camp of exercise on the confines of Hampshire, Surrey, and Berkshire, 35 miles S. W. of London.

Aldine Editions, the books printed by Aldus Manutius and his family, in Venice (1490–1597). They comprise the first editions of Greek and Roman classics; others contain corrected texts of modern classic writers, carefully collated with the MSS.

Aldrich, Nelson Wilmarth, United States senator from Rhode Island, recognized as the leading American authority on the protective tariff, and generally understood to be the real author of the McKinley Law as adopted. Born, Foster, R. I., November 6, 1841. President Providence Common Council, 1871–73; Speaker R. I. General Assembly, 1876; in Congress 1879 to 1883, when he resigned to take seat in Senate, in which he has since represented his State.

Aldrich, Thomas Bailey, an American poet, essayist, and writer of fiction, born in Portsmouth, N. H., Nov. 11, 1836. He spent his early youth in Louisiana, but at the age of 17 entered a mercantile house in New York. Removing to Boston in 1866, he became editor of "Every Saturday," and, in 1881, editor of the "At-

lantic Monthly." He became equally eminent as a prose writer and poet. He died March 19, 1907.

Ale, a malt liquor, stronger than ordinary beer. It was the current name in England for malt liquor in general before the introduction of "the wicked weed called hops" from the Netherlands, about the year 1524. The two names, ale and beer, are both Teutonic, and seem originally to have been synonymous.

Alemanni, or **Alamanni,** a confederacy of several German tribes which, at the commencement of the 3d century after Christ, lived near the Roman territory, and came then and subsequently into conflict with the imperial troops. It is from the Alemanni that the French have derived their names for Germans and Germany in general, namely, Allemands and Allemagne, though strictly speaking only the modern Suabians and Northern Swiss are the proper descendants of that ancient race.

Alembert, Jean le Rond d', one of the most distinguished mathematicians and literary characters of the 18th century; born in Paris, Nov. 16, 1717. He died Oct. 29, 1783.

Alembic, a simple apparatus sometimes used by chemists for distillation.

Aleppo, a city of Turkey in Asia, in Northern Syria, and capital of the vilayet of Aleppo; on the Koeik river, 71 miles E. of the Mediterranean. The foundation of Aleppo dates back to about 2,000 years B. C. It was nearly destroyed by an earthquake in 1822, when it lost two-thirds of its 250,000 inhabitants. The present inhabitants are Turks, Greeks, Armenians, and Jews. Pop. about 127,000.

Aleutian Islands, or **Catherine Archipelago,** a group of about 150 islands, extending W. from Alaska peninsula for a distance of 1,650 miles; belongs to Alaska Territory. The islands are mountainous, with several volcanic peaks. The principal islands are Umnak and Unalaska. The inhabitants are nearly all Aleuts, a people allied to the Eskimos. These islands were discovered by Bering in 1728. Pop. about 3,000.

Alewife, a North American fish, belonging to the same family as the herring and the shad.

Alexander VI., Pope, Rodrigo Lenzuoli Borgia, a Spaniard, of Valencia, son of Isabelle Borgia, whose family name he took, born Jan. 1, 1431. At first he studied law, and then was appointed by his uncle, Pope Calixtus III., a cardinal before he was 25 years old. In 1458 he was made Archbishop of Valencia. After the death of Innocent VIII. he was crowned Aug. 26, 1492, with great pomp and solemnity. To his son John, Duke of Gandia, he presented the duchy of Benevento, in 1487, which was separated from the estates of the Church. His daughter, Lucretia Borgia, was married to Giovanni Sforza, Lord of Pesaro, afterward to Alfonso di Biseglia, then thirdly to Alfonso d'Este, Prince of Ferrara. His son, Cæsar, who afterward got complete control of him, was made Archbishop of Valencia, and, in 1493, was appointed cardinal. Afterward, in order to create for him a secular principality, he made an alliance with Louis XII. of France. Cæsar Borgia, therefore, left the Church and became Duke of Valentinois. In 1501 he became Duke of the Romagna. On May 4, 1493, Alexander issued a bull dividing the New World between Spain and Portugal; on May 23, 1498, the execution of Savonarola took place by his order; and in 1501 he instituted the censorship of books. Alexander died Aug. 18, 1503, from poison said to have been intended for Cardinal Corneto.

Alexander I., Emperor of Russia, son of Paul I. and Maria, daughter of Prince Eugene, of Wurtemberg; born Dec. 23, 1777. On the assassination of his father, March 24, 1801, Alexander ascended the throne. One of the first acts of his reign was to conclude peace with Great Britain, against which his predecessor had declared war. In 1803 he offered his services as mediator between England and France, and two years later a convention was entered into between Russia, England, Austria, and Sweden for the purpose of resisting the encroachments of France on the territories of independent States. He was present at the battle of Austerlitz (Dec. 2, 1805), when the combined armies of Russia and Austria were defeated by Napoleon. Alexander was compelled to retreat to his dominions

at the head of the remains of his army. In the succeeding campaign the Russians were again beaten at Eylau (Feb. 8, 1807), and Friedland (June 14), the result of which was an interview, a few days after the battle, on a raft anchored in the Niemen, between Alexander and Napoleon, which led to the treaty signed at Tilsit, July 7. The Russian emperor now for a time identified himself with the Napoleonic schemes. The seizure of the Danish fleet by the British brought about a declaration of war by Russia against Great Britain and Sweden, and Alexander invaded Finland and conquered that long-coveted duchy, which was secured to him by the peace of Friedrichshamn (1809). His having separated himself from Napoleon led to the French invasion of 1812. In 1813 he published the famous manifesto which served as the basis of the coalition of the other European powers against France. After the battle of Waterloo, Alexander, accompanied by the Emperor of Austria and the King of Prussia, made his second entrance into Paris. He died in the Crimea, Dec. 1, 1825.

Alexander II., Emperor of Russia; born April 29, 1818; succeeded his father Nicholas in 1855, before the end of the Crimean War. After peace was concluded the new emperor set about effecting reforms in the empire, among the first being the putting of the finances in order. The greatest of all the reforms carried out by him was the emancipation of the serfs by a decree of March 2, 1861. The czar also did much to improve education in the empire, and introduced a reorganization of the judicial system. During his reign the Russian dominions in Central Asia were considerably extended, while to the European portion of the monarchy was added a piece of territory, S. of the Caucasus, formerly belonging to Turkey in Asia. A part of Bessarabia, belonging since the Crimean War to Turkey in Europe, but previously to Russia, was also restored to the latter power. The latter additions resulted from the Russo-Turkish War of 1877–1878, in which the Turks were completely defeated, the Russian troops advancing almost to the gates of Constantinople. Toward the end of the czar's life several attempts at his assassination were made by Nihilists, and at last he was killed by an explosive missile flung at him in a street in St. Petersburg, March 13, 1881. He was succeeded by his son, Alexander III

Alexander III., of Russia, son of Alexander II., was born March 10, 1845, and married the daughter of the King of Denmark in 1866. After his father's death, through fear of assassination, he shut himself up in his palace at Gatschina. His coronation was postponed till 1883, and was celebrated with extraordinary magnificence, and with national festivities lasting several days. Through the fall of Merv, the subjugation of the Turkomans in Central Asia was completed. In 1885 hostilities with England with regard to the defining of the frontier between the Russian territories and Afghanistan, for a time seemed imminent. In European affairs he broke away from the triple alliance between Russia, Germany, and Austria, and looked rather to France. He was aggrieved by the new Bulgarian spirit. His home policy was reactionary, though strong efforts were made to prevent malversation by officials, and stern economics were practiced. The liberties of the Baltic Provinces and of Finland were curtailed, the Jews were oppressed, and old Russian orthodoxy was favored. Several Nihilist attempts were made on his life, and he kept himself practically a prisoner in his palace. He died at Livadia, Nov. 1, 1894.

Alexander III., King of Scotland, born in 1241, in 1249 succeeded his father, Alexander II. Riding on a dark night between Burntisland and Kinghorn, he fell with his horse and was killed on the spot, March 12, 1286. A monument (1887) marks the scene of his death. His death led to the attempt of Edward I. of England to destroy the liberties of Scotland, which resulted in the crushing defeat of the English under Edward II. at Bannockburn.

Alexander I., King of Servia, born Aug. 14, 1876; son of King Milan I. In 1889 Milan abdicated and proclaimed Alexander king, under a regency till he should attain his majority (18 years). On April 13, 1893, when in his 17th year, Alexander sud-

denly took the royal authority into his own hands, and summarily dismissed the regent. On Aug. 5, 1900, he married Mme. Draga Maschin. He was the fifth of his dynasty, which was founded by Milos Todorovic Obrenovic in 1829. On the night of June 10, 1903, the military at Belgrade revolted, soldiers surrounded the palace, and the leaders broke into the royal apartments and murdered King Alexander and Queen Draga, and also two brothers of the Queen and members of the Cabinet. This extinguished the Obrenovitch dynasty, except as represented by a natural son of former King Milan, whom the latter had acknowledged and made legitimate.

Alexander, Archibald, an American clergyman, of Scottish descent, was born in Virginia, April 17, 1772, and died at Princeton, N. J., Oct. 22, 1851. He studied theology, and performed itinerant missionary work in various parts of Virginia; became president of Hampton-Sidney College in 1796, and pastor of a Presbyterian church in Philadelphia in 1807. On the establishment of Princeton Theological Seminary in 1812, he was appointed its first professor, a position which he held till his death. His eldest son, JAMES WADDELL ALEXANDER (1804–1850), was a Presbyterian minister in Virginia, New Jersey, and at New York; and afterward professor in Princeton Theological Seminary. He contributed to the "Princeton Review," wrote more than 30 children's books, a life of his father, and miscellaneous works. JOSEPH ADDISON ALEXANDER, third son (1809–1860), graduated at Princeton in 1826, lectured there on Biblical Criticism and Ecclesiastical History, and for the last eight years of his life filled the chair of Biblical and Ecclesiastical History. He was engaged at the time of his death, along with Dr. Hodge, on a commentary of the New Testament. He is best known by his commentaries and "Prophecies of Isaiah" (1846–1847; revised edition, 1864), and the "Psalms Translated and Explained" (3 volumes, 1850), both of which have had a large circulation, and have been reprinted in England.

Alexander Archipelago, or **Alexander Islands,** a group of islands on the W. coast of North America, extending from 54° 40′ N. to 58° 25′ N.; belong to Alaska Territory.

Alexander Jarostowitz Nevski, St., Grand Duke of Vladimir and Prince of Novgorod, born in 1219; a Russian national hero and patron saint of St. Petersburg, where Peter the Great founded in his honor the magnificent monastery and the religious order that bear his name. He died in 1263.

Alexander, John W., an American portrait painter, born in Pittsburg, Pa., Oct. 7, 1856; studied at Munich, Paris, and in Italy; became a societaire of the Beaux Arts in Paris; was appointed one of the American jurors on paintings for the Paris Exposition in 1900.

Alexander of Hales, a noted English philosopher and theologian, born at Hales, Gloucestershire. He died in Paris, 1245.

Alexander Severus, (in full, MARCUS AURELIUS ALEXANDER SEVERUS), a Roman emperor; born in Ace (the modern Acre), Phœnicia, in A. D. 205. Alexander was favorable to Christianity, following the predilections of his mother, Julia Mammæa, and he is said to have placed the statue of Jesus Christ in his private temple, in company with those of Orpheus and Apollonius of Tyana. He was murdered A. D. 235.

Alexander the Great, the 3d King of Macedon bearing the name which he made so famous; born in Pella, 356 B. C.

Alexander first appeared on the stage of universal history in 339 B. C. At the age of 16 the regency of Greece was intrusted to him by Philip when he set out on an expedition against Byzantium; and in that capacity it fell to his lot to lead his first army against an Illyrian rising, to found his first Alexandria in the upper valley of the Strymon, and to receive a deputation of envoys from the King of Persia. In the year after his appointment to the regency Alexander showed eminent military capacity at the battle of Chæronea (338), and, on the murder of Philip, ascended the throne in 336, before he had reached his 20th year.

In the autumn of 336 Alexander marched into Greece, and was con-

firmed in the chief command against Persia by the Amphictyones at Thermopylæ. In 335 he advanced to the Hæmus range (the Balkans), and showed great ability in his campaign against the Thracians, crossing the Danube — apparently out of mere bravado — in the face of the enemy without losing a single man. He had no real friends among the Greek States. The Thebans, hearing a false report of his death, became overt enemies, proclaimed their independence, and slew some Macedonian officers. Alexander appeared in Bœotia with amazing dispatch, and took Thebes by storm on the third day of the siege.

Leaving Antipater to govern in Europe, he crossed over into Asia in the spring of 334 with 30,000 foot and 5,000 horse. The Persian empire, the conquest of which he undertook, was at least 50 times as large as his own and numbered about 20 times as many inhabitants. It extended from the Hellespont to the Punjab, from Lake Aral to the cataracts of the Nile. But it was a vast congeries of subject provinces having no internal bond, and no principle of cohesion but the will of the king. Alexander entirely subdued Persia, and formed the idea of conquering India. He passed the Indus in 327, and made an alliance with Taxiles, under whose guidance he reached the Hydaspes (modern Jhelum). Here, after a severe struggle, and unsatisfactory victory, he built a fleet, in which he sent part of his army down the river, while the rest proceeded along the banks.

In 323 Alexander arrived at Babylon, where he found numberless envoys from nations near and far, come to pay their homage to the young conqueror. He was engaged in very extensive plans for the future, including the conquest of Arabia and the reorganization of the army, when he fell ill of a fever. He died in 323, after a reign of 12 years and eight months. The day before a rumor had gone abroad that the great general was dead, and that his friends were concealing the truth. The dying king caused his army to defile past his bed, and feebly waved them a last farewell.

Alexandria, a city of Egypt, founded by Alexander the Great in 331 B. C. The situation of the city, at the point of junction between the East and West, rendered it the center of the commerce of the world, and raised it to the highest degree of prosperity. In the Middle Ages it suffered reverses, and gradually declined, and when, in 1517, the Turks took the place, the remains of its former splendor wholly vanished, walls and buildings being reduced to ruins. It is now again one of the most important commercial places on the Mediterranean. Recent improvements, to cost $10,000,000, are expected to make the western harbor one of the best on the Mediterranean.

Of the few remaining objects of antiquity the most prominent is Pompey's Pillar, as it is erroneously called. Of the so-called Cleopatra's Needles — two obelisks of the 16th century B. C., which long stood there — one was taken to England and erected on the Thames Embankment in 1878; and the other was set up in Central Park, New York. Pop. 319,766.

Alexandria, independent city and port of entry of Virginia; on the Potomac river and the Baltimore & Ohio and other railroads; 6 miles S. of Washington; has a good harbor, large shipments of grains, and considerable manufacturing interests; is the seat of the Virginia Theological Seminary (P. E.) and was the headquarters of General Braddock in 1775. Pop. (1910) 15,329.

Alexandrian Codex, an important manuscript of the sacred Scriptures in Greek, now in the British Museum. It is written on parchment, in finely formed uncial letters, and is without accents, marks of aspiration, or spaces between the words. Its probable date is the middle of the 5th century.

Alexandrian Library, a remarkable collection of books, the largest of the ancient world, was founded by the first Ptolemy. Theodosius the Great permitted all the heathen temples in the Roman empire to be destroyed, the magnificent temple of Jupiter Serapis, containing the library, was not spared. A mob of fanatic Christians, led on by the Archbishop Theophilus, stormed and destroyed the temple, together, it is most likely, with the greater part of its literary treasures, in 391 A. D. It was at this time that the destruc-

tion of the Library was begun, and not at the taking of Alexandria by the Arabs, under the Caliph Omar, in 641, when its destruction was merely completed.

Alexius Comnenus, Byzantine Emperor, was born in 1048, and died in 1118. He was a nephew of Isaac the first emperor of the Comneni, and attained the throne in 1081, at a time when the empire was menaced from various sides, especially by the Turks, the Normans and the Crusaders. From these dangers he extricated himself by policy or warlike measures, and maintained his position during a reign of thirty-seven years.

Alfalfa, a prolific forage plant belonging to the Legume family, largely grown in the United States, and in parts of Spanish America. Crops are gathered three or four times a season.

Alfieri, Vittorio, Count, an Italian dramatist, born in 1749; died 1803. His style founded a new school in Italian drama.

Alfonso X., surnamed "the Astronomer," "the Philosopher," or "the Wise" (El Sabio), King of Leon and Castile, born in 1226; succeeded his father, Ferdinand III., in 1252. Alfonso was the founder of a Castilian national literature. He died in 1284.

Alfonso XII., King of Spain, the only son of Queen Isabella II. and her cousin, King Francis of Assisi, was born Nov. 28, 1857. He left Spain with his mother when she was driven from the throne by the revolution of 1868. His mother had given up her claims to the throne in 1870 in his favor, and in 1874 Alfonso came forward himself as claimant, and in the end of the year was proclaimed by Gen. Martinez Campos as king. Alfonso was successful in bringing the Carlist struggle to an end (1876), and henceforth he reigned with little disturbance until his death in 1885. He married first his cousin Maria de las Mercedes, daughter of the Duke de Montpensier; second, Maria Christina, Archduchess of Austria.

Alfonso XIII., King of Spain, son of the late Alphonso XII. and Maria Christina, daughter of the late Karl Ferdinand, Arch-Duke of Austria, born after his father's death, May 17, 1886, as a male, becoming heir to the throne. During his minority his mother was made Queen Regent and directed his education with great care. He formally ascended the throne May 17, 1902. On May 31, 1906, he married the British Princess Victoria Ena of Battenberg. The wedding festivities were marred by an attempt to assassinate the royal pair, several persons being killed by a bomb. On May 11, 1907, their son Alfonso Pio Cristino Eduardo, the heir-apparent, was born.

Alford, Henry, an English poet and miscellaneous writer, philologist, critic, artist, and preacher, born in London, Oct. 7, 1810. He died at Canterbury, Jan. 12, 1871.

Alfred the Great, King of England, and one of the most illustrious rulers on record; born in Wantage, in Berkshire, 849 A. D. He defeated the Danes, who were allotted that portion of the E. of England which is now occupied by the modern counties of Norfolk, Suffolk, Cambridge, and Lincoln. Alfred occupied himself with great zeal in literary pursuits and in the advancement of learning. This illustrious prince died, Oct. 28, 901, in the 30th year of his reign.

Algæ, the general name for the sea-weeds and similar plants, mostly growing in salt and fresh water.

Algebra, that department of mathematics which enables one, by the aid of certain symbols, to generalize, and, therefore, to abbreviate, the methods of solving questions relating to numbers. It is now regarded as the most extensive department of mathematics.

Alger, Cyrus, an American inventor, born in West Bridgewater, Mass., Nov. 11, 1781. He learned the iron foundry business, and in 1809 established himself in South Boston, where he soon made himself widely known by the excellence of the ordnance he manufactured. He supplied the United States Government with a large quantity of cannon-balls during the war of 1812; produced the first gun ever rifled in America, as well as the first perfect bronze cannon; and supervised the casting of a mortar which was the largest gun of cast-iron that had then been made in the United States. Subsequently he made improvements in the construction of time

fuses for bomb-shells and grenades; patented a method of making cast-iron chilled rolls; and was the original designer of the cylinder stove. He died in Boston, Mass., Feb. 4, 1856.

Alger, Horatio, an American writer of juvenile books, born at Revere, Mass., Jan. 13, 1834. He died in Natick, Mass., July 18, 1899.

Alger, Russell Alexander, an American merchant, capitalist, and politician, born in Lafayette, O., Feb. 27, 1836. He served in the Civil War, rising from a captaincy to the rank of brevet Major-General of Volunteers. He acquired a large fortune in Western enterprises, particularly the lumber business. He was Governor of Michigan from 1885 to 1887; a candidate for the Republican presidential nomination in 1888; Commander-in-Chief of the Grand Army of the Republic 1889-90; U. S. Secretary of War 1897-99; published "The Spanish-American War," 1901; became U. S. Senator for Michigan 1902; re-elected 1903; died suddenly Jan. 24, 1907.

Alger, William Rounseville, an American Unitarian clergyman and writer, born at Freetown, Mass., Dec. 30, 1822. His chief works are "History of the Doctrine of a Future Life" (1863); "Genius of Solitude" (1865); and "Friendships of Women" (1867). He occupied pulpits in New York, Denver, Boston, and San Francisco. He died Feb. 7, 1905.

Algeria, a French colony in the N. of Africa; bounded on the N. by the Mediterranean, on the E. by Tunis, on the W. by Morocco, and on the S. by the desert of Sahara. The country now Algeria was for many years the seat of a piratical despotism, tributary to the Sultan of Turkey, but virtually independent. After the Americans had gained independence the Algerians were encouraged by the British to prey on American commerce, so that the United States might be prevented from rivalling Great Britain in the Mediterranean. American merchantmen were captured by the Algerian pirates, and the crews were ransomed or enslaved. In November, 1795, the United States made a humiliating treaty agreeing to pay to the Dey of Algiers a tribute equal to $22,000 yearly for "protection" to American commerce. When the War of 1812 broke out the Dey of Algiers ignored the treaty, and attacked and plundered American vessels. Promptly upon the conclusion of peace with England the American government proceeded to take vengeance on the Algerians, and a powerful squadron under Captains Decatur and Bainbridge was sent to the Mediterranean. The Algerians had a strong navy, and met the Americans with a superior force in vessels and guns. The Mashouda, the Algerian flagship, was captured after a sanguinary struggle. The Dey in terror acceded to all American demands, agreed to forego tribute, and gave up the American captives, who kissed the American flag and wept for joy. In the following year, 1816, the British bombarded Algiers, and forced the Dey to agree to put a stop to piracy — an agreement that was not kept. In 1827 the French began the work of conquering Algiers, and after a struggle of about thirty years they completely subdued the country, and made it a peaceful and flourishing colony of France. Algeria is governed by a governor-general, who is assisted by a council appointed by the French government. The settled portion of the country, in the three departments of Algiers, Constantine, and Oran, is treated much as if it were a part of France and each department sends two deputies and one senator to the French chambers. The rest of the territory is under military rule. The colony costs France a considerable sum every year. Pop. of civil territory, 3,636,967; of military territory, 487,765; total 4,124,732. Algiers, the capital is a growing city with a flourishing trade and a population of about 100,000 in 1904.

Algonkian, or **Algonquin,** an Indian linguistic stock, originally the most extensive in North America. The constant wars with the English, French, and Dutch colonists depleted their numbers. Filled at first with the idea of freeing the soil from the whites, they afterward degenerated into mere mercenaries, fighting on either side for revenge or gain. After the War of 1812, in which they took the side of the British, the United States Government resolved to set a

them as far W. as possible. After 1840, few of them remained E. of the Mississippi. In Canada, they were not removed from their homes, but were limited as to territory. War and disease have thinned their number, until only 37,000 remain in the United States, and 63,000 in Canada. The chief occupations of the Algonkians were hunting, fishing and corn raising. In character they were brave, strong, and intelligent, but lacking in steadfastness. They were not so united as the Iroquois, owing to the multiplicity of their languages.

Alhambra, the famous palace of the Moorish kings of Granada, situated on a hill N. of the town of Granada. In spite of its neglected condition, the Alhambra is the most remarkable and most perfect specimen of Moorish art to be found in Europe.

Alien and Sedition Acts, a series of enactments during the administration of John Adams, the purpose of which was to restrain the activity of those who sympathized with France. The extreme partisan spirit of these acts caused a reaction, which was expressed in the Kentucky and Virginia resolutions.

Alimentary Canal, the alimentary tube; the great tube or duct by which food is conveyed into the stomach, and from which the waste and undigested food is excreted.

Alison, Sir Archibald, a Scottish historian and writer, born at Kenley, Shropshire, Dec. 29 1792. His mangum opus—"The history of Europe from 1789 to 1815" was first issued in 10 volumes in 1833-1842. He subsequently brought down the narrative to 1852, the date of the birth of the second French empire. Died 1867.

Alizarine, a substance contained in the madder root, and largely used in dyeing reds of various shades. Formerly madder root was largely employed as a dye-stuff, but the use of the root has been almost superseded by the employment of alizarine, prepared artificially from one of the constituents of coal-tar. It forms yellowish-red prismatic crystals, nearly insoluble in cold, but dissolved to a small extent by boiling water, and readily soluble in alcohol and ether. It possesses exceedingly strong tinctorial powers.

Alkali, a strong base, capable of neutralizing acids, so that the salts formed are either completely neutral, or, if the acid is weak, give alkaline reactions. It was formerly restricted to the hydrates of potassium, sodium, lithium and ammonium, but now includes the hydrates of alkaline earths (baryta, strontia and lime) and many organic substances. Alkalies are more or less soluble in water. Caustic potash is used in surgery as a cautery.

Alkaloid, a term applied to a class of nitrogenized compounds having certain alkaline properties, found in living plants, and containing their active principles, usually in combination with organic acids. Their alkaline qualities depend upon the nitrogen they contain. Their names generally end in ine, as morphine, quinine, aconitine, caffeine, &c. Most alkaloids occur in plants, but some are formed by decomposition. The only property common to all alkaloids is that of combining with acids to form salts, and some exhibit an alkaline reaction with colors. Alkaloids form what is termed the organic bases of plants. Although formed originally within the plant, it has been found possible to prepare several of these alkaloids by purely artificial means.

Allah, compounded of the article al and ilah—i. e., "the god," a word cognate with the Hebrew Eloah), the Arabic name of the supreme god among the heathen Arabs, adopted by Mohammed for the one true God. See MOHAMMED and MOHAMMEDANISM.

Alleghanies, a word used as synonymous with the APPALACHIAN MOUNTAINS (q. v.), sometimes applied only to that portion of the system which extends from Pennsylvania to North Carolina, and which forms the watershed between the Atlantic and the Mississippi.

Allegheny, a former city in Allegheny co., Pa.; at the confluence of the Allegheny and Monongahela rivers, which here form the Ohio; and on several railroads; opposite the city of Pittsburg, the county-seat.

Allegheny was laid out as a town in 1788; created a borough in 1828, and consolidated with Pittsburg in 1907. Pop. (1890) 105,287; (1900) 129,896. See PITTSBURG.

Allegheny River, a river of Pennsylvania and New York; a headstream of the Ohio. Its length is about 400 miles, and it is navigable for about 150 miles above Pittsburg.

Allen, Charles Grant Blairfindie, generally known as Grant Allen, an English author, born 1848, died 1899. His best known and most popular works are on scientific subjects, although he also wrote many novels.

Allen, Charles Herbert, an American diplomatist, born in Lowell, Mass., April 15, 1848; was graduated at Amherst College in 1869; became associated with his father in the lumber business in Lowell; served in both branches of the State Legislature, and in Congress in 1885–1889; was defeated as the Republican candidate for governor of Massachusetts in 1891; and succeeded Theodore Roosevelt as Assistant Secretary of the Navy, in May, 1898. On the passage by Congress of the Porto Rico Tariff and Civil Government bill, in April, 1900, the President appointed him the first civil governor of Porto Rico, an office which he resigned in July, 1901.

Allen, Edward P., an American Roman Catholic clergyman, born in Lowell, Mass., March 17, 1853; now fifth Bishop of Mobile, Ala.

Allen, Elizabeth Akers, an American poet, born (ELIZABETH CHASE) at Strong, Me., Oct. 9, 1832. She was married in 1860 to Paul Akers, the sculptor, who died in 1861, and in 1865 to E. M. Allen, of New York.

Allen, Ethan, an American Revolutionary hero, born at Litchfield, Conn., Jan. 10, 1737. His services in the War of Independence, as Colonel of the "Green Mountain Boys," capturing Fort Ticonderoga "in the name of the Great Jehovah and the Continental Congress," his attack on Montreal, sufferings as a prisoner in England, skillful diplomacy in behalf of Vermont, etc., are well known. He died near Burlington, Vt., Feb. 12, 1789.

Allen, James Lane, an American novelist, born near Lexington, Ky., in 1850. His fame rests mainly upon his powerful and popular novels of manners and people in the "blue grass" region and elsewhere.

Allen, Joel Asaph, an American mammalogist, born in Springfield, Mass., July 19, 1838. He went with Agassiz on his expedition to Brazil in 1865; became assistant in ornithology at the Cambridge Museum of Comparative Zoology in 1870, and was appointed curator of the department of vertebrate zoology in the American Museum of Natural History, New York, in 1885.

Allen, Joseph Henry, an American Unitarian minister, educator, historian, and essayist, born at Northboro, Mass., Aug. 21, 1821. He was senior editor of the "History of Unitarianism." He died in 1898.

Allen, Thomas, an American landscape and animal painter, born at St. Louis, Mo., Oct. 19, 1849. After an education in St. Louis, he graduated from the Royal Academy at Düsseldorf, Germany. He studied in France; exhibited his first picture at the Academy of Design in New York, and at the salons at Paris; became vice-president of the Boston Art Students' Association; member of the committee of the School of Drawing and Painting of the Boston Museum of Fine Arts.

Allen, William, an American preacher and miscellaneous writer, born at Pittsfield, Mass., Jan. 2, 1784; died at Northampton, Mass., July 16, 1868.

Allen, William Henry, an American naval officer, born at Providence, R. I., in 1784. He entered the navy in 1800, and was in some of the greatest naval battles in American history. He died Aug. 15, 1813, from a wound received the previous day in a naval fight, and was buried in England.

Allentown, city and capital of Lehigh county, Pa.; on the Lehigh river and canal and several railroads; 60 miles N. W. of Philadelphia. It has large manufacturing interests, including iron, silk, hardware, furniture, shoes, wire, hosiery, and thread; is the seat of Muhlenberg College (Luth.) and Allentown College for Women (Ref.); and has a property valuation exceeding $35,000,000. Pop. (1910) 51,916.

All-Hallows' Eve, the 31st of October, the evening before All-Hallows (commonly known as Hallow E'en).

Alliance, a city in Stark county, O., on the Mahoning river and the Pennsylvania Co.'s railroad; 57 miles S. E. of Cleveland; has large rolling mills, steel-casting and boiler works, and manufactories of gun-carriages, steam hammers, and electric cranes; seat of Mt. Union College (M. E.). Pop. (1910) 15,083.

Allibone, Samuel Austin, an American bibliographer, born at Philadelphia, April 17, 1816. He was at one time librarian of the Lenox Library, New York. He died at Lucerne, Switzerland, Sept. 2, 1889.

Allison, William Boyd, an American legislator, born in Perry, O., March 2, 1829; was brought up on a farm; and subsequently educated at Allegheny College, Pa., and Western Reserve College, O. He practiced law in his native State till 1857, when he removed to Dubuque, Ia. In the early part of the Civil War he served on the governor's staff, and was actively engaged in raising troops for the Union army. In 1863–1871 he was a representative in Congress; and on March 4, 1873, entered the United States Senate as a Republican, to which he was re-elected in 1878, 1884, 1890, and 1896. He was a delegate to the Republican National Convention in Chicago, in 1860; and several times has been a conspicuous candidate for the presidential nomination of his party. He died Aug. 8, 1908.

Allopathy, a system of medicine the object of which is to produce in the bodily frame another condition of things than that in or from which the disease has originated. Allopathy is opposed to homœopathy, which aims at curing diseases by producing in antagonism to them symptoms similar to those which they produce. Up-to-date doctors practise what they believe to be good in both systems, and the distinction is now largely nominal.

Alloy, a compound or mixture of two or more metals.

All-Saints' Bay, in the State of Bahia, on the coast of Brazil, forms a superb natural harbor, in which the navies of the whole world might ride at anchor. Its length from N. to S. is 37 miles; its breadth from E. to W., 27. The town of Bahia lies just within it.

All-Saints' Day, a festival instituted by Pope Boniface IV., early in the 7th century, on the occasion of his transforming the Roman heathen Pantheon into a Christian temple or church, and consecrating it to the Virgin Mary and all the martyrs.

Allspice, a kind of pepper, consisting of the dried berries of pimenta officinalis, a tree belonging to the order myrtaceæ (myrtle blooms). It is imported almost entirely from Jamaica, and is hence called Jamaica pepper.

Allston, Washington, an eminent American painter, poet, and romancer, born at Waccamaw, S. C., Nov. 5, 1779; graduated at Harvard in 1800; studied at the Royal Academy, London, and in Rome, and returned to Boston in 1809. He died in Cambridge, Mass., July 9, 1843.

Alma, a river in the Crimea, Russia, flowing westward into the Bay of Kalamita, about half way between Eupatoria and Sebastopol. On the steep banks of the stream, through the channel of which the British troops waded amid a shower of bullets, a brilliant victory was won on Sept. 20, 1854, by the allied armies of England and France, under Lord Raglan and Marshal St. Arnaud, over the Russian army commanded by Prince Menschikoff. It was the first battle of the Crimean War.

Almaden, a town in Spain, 50 miles S. W. of Ciudad Real, situated in the chain of the Sierra Morena. It is famous for its 12 rich quicksilver mines, employing about 4,000 miners, and yielding an annual output of 2,500,000 pounds.

Almagro, Diego d', a Spanish conquistador, was born in 1464 or 1475, and was a foundling who derived his name from the town near which he was found. After serving in the army, he sailed to seek his fortune in the New World, where he amassed considerable wealth by plunder, and became one of the leading members of the young colony of Darien. In 1522 he formed, with Pizarro, the design of conquering Peru — an undertaking crowned 10 years afterward with marvellous success. Receiving permission from the Spanish court to conquer for himself a special prov-

ince S. of Pizarro's territory, he marched on Chile in 1536, penetrated as far as the Coquimbo, and returned in 1537, just when the Peruvians had flown to arms and shut up the Spaniards in Cuzco and Lima. As these towns lay S. of Pizarro's district, they were claimed by Almagro. He dispersed the Peruvian army before Cuzco, and advanced against Lima, hoping to make himself sole master of the country. But on April 6, 1538, he was defeated in a desperate engagement with the Spaniards under Pizarro near Cuzco; and on the 26th he was strangled in prison, and his corpse beheaded in the market place of Cuzco. His half-caste son, Diego, collecting some hundreds of his father's followers, stormed Pizarro's palace, and slew him (1541); then proclaimed himself captain-general of Peru; but, defeated in the bloody battle of Chupas, Sept. 16, 1542, he was executed along with 40 of his companions.

Almanac, an annual compilation, based on the calendar, embracing information pertinent to the various days of the year, the seasons, etc., with astronomical calculations and miscellaneous intelligence more or less detailed, according to the special purpose for which it is prepared.

Alma-Tadema, Sir Laurenz, distinguished figure painter, born in Friesland, Jan. 8, 1836; educated principally at the Antwerp Academy; elected to the Royal Academy, London, in 1879; officer of the Legion of Honor, 1878; and member of the leading academies of Europe; studio in London. He died June 24, 1912.

Almohades, the name of a Moslem dynasty that ruled in Africa and Spain during the 12th and 13th centuries.

Almond, the fruit of the almond tree, which grows usually to the height of 12 or 14 feet. Its pink flowers, composed of five petals, grow in pairs, and appear very early in spring. The almonds which are consumed in the United States are imported, sometimes in the shell, and often without, from France, Spain, Italy, and the Levant.

Almonte, Juan Nepomuceno, a Mexican general, believed to be the son of the priest Morelos, born in 1804. As a boy he took part in the war for independence. He took part in the battles of Buena Vista and Cerro Gordo in 1847. In 1861, when Juarez attained power, he deposed Almonte, who, led by party hatred and ambition, invited the French expedition to Mexico. In the beginning of 1862 he joined the French troops of occupation at Vera Cruz; but, as the Mexicans saw in him only a tool of the French plans, they renounced the idea of making him French dictator, supported by French bayonets. The French general, himself, deprived him of power, but when, on the 10th of June, 1863, he reached the City of Mexico with the French, he was placed by the conquerors at the head of the Regency of the Mexican Empire. The Emperor Maximilian appointed him field-marshal, but, after Maximilian's death, he fled to Europe, and died in Paris, March 22, 1869.

Almquist, Karl Jonas Ludvig, a notable Swedish poet, novelist and miscellaneous writer, born in Stockholm, Nov. 28, 1793. He died in Bremen, Sept. 26, 1866.

Aloe, any species of the genus described under botany (below), or even of one, such as agave, with a close analogy to it. The American aloe is the agave americana, an amaryllid. The aloe of Scripture is probably the agallochum.

Alopecia, a variety of baldness in which the hair falls off from the beard and eyebrows, as well as the scalp.

Alpaca, the name given to a species of llama, which has for a long time back been domesticated in Peru.

Alpha and Omega, the first and last letters of the Greek alphabet, sometimes used to signify the beginning and the end, or the first and the last of anything; also as a symbol of the Divine Being. They were also formerly the symbol of Christianity, and engraved accordingly on the tombs of the ancient Christians.

Alphabet, so called from alpha and beta, the first two Greek letters, is the name given to a set of graphic signs, called letters, denoting elementary sounds, by the combination of which words can be visibly represented. Nearly 200 alphabets, ancient and modern, are known, of which

about 50 are now in use. Most of them are developments from the prim-

ALPHABETS.

itive Phœnician alphabet, which was itself ultimately derived from the Egyptian hieroglyphic picture-writing.

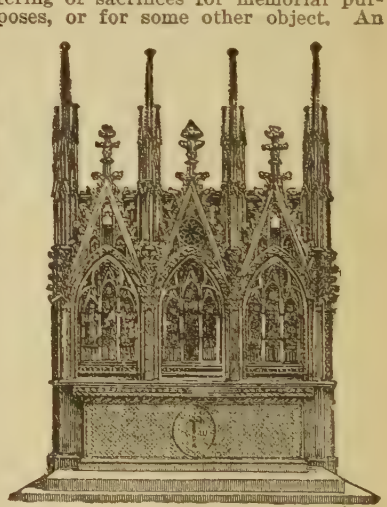
Alpine Plants, the name given to those plants whose habitat is in the neighborhood of the snow, on mountains partly covered with it all the year round. As the height of the snow-line varies according to the latitude and local conditions, so also does the height at which these plants grow.

Alps, the highest and most extensive system of mountains in Europe, included between lat. 44° and 48° N., and long. 5° and 18° E., covering the greater part of Northern Italy, several departments of France, nearly the whole of Switzerland, and a large part of Austria, while its extensive ramifications connect it with nearly all the mountain systems of Europe. The culminating peak is Mont Blanc, 15,781 feet high, though the true center is the St. Gothard, or the mountain mass where it belongs, from the slopes of which flow, either directly or by affluents, the great rivers of Central Europe, the Danube, Rhine, Rhone, and Po.

Alsace-Lorraine (German, Elsass-Lothringen), since its cession by France, in 1871, a State or "imperial territory" (Reichsland) of the German empire. Area, 5,580 square miles; population, 1,719,470, of whom eighty per cent speak German. It is governed as a subject province.

On May 9, 1902, Emperor William directed that a bill be laid before the Federal Council abolishing paragraph 10 in the imperial constitution, which imposed practically a dictatorship on the reichsland of Alsace-Lorraine. This imperial action was wholly unexpected, and excited the marked gratitude of the people affected. The bill was passed.

Altar, an erection made for the offering of sacrifices for memorial purposes, or for some other object. An



GOTHIC ALTAR.

altar designed for sacrifice is mentioned in Scripture as early as the

time of Noah (Genesis viii: 20). Abraham, Isaac and Jacob built several altars in places where for a brief or more lengthened period they sojourned. Most of these appear to have been for sacrificial purposes,and one or two seem to have been for memorial ends; but the most unequivocal case of the memorial altar was subsequently. (Josh. xxii: 10–34; Gen. xii: 7, 8; xiii: 4, 18; xxii: 9; xxvi: 25; xxxiii: 20; xxxv: 1, 7.)

Alterative, a kind of medicine which, when given, appears for a time to have little or no effect, but which ultimately changes, or tends to change, a morbid state into one of health.

Altgeld, John Peter, author, lawyer, and judge, born in Germany, in December, 1847. When but a few months old he was taken to Mansfield, Ohio. He was Judge of the Supreme Court at Chicago, in 1886–1891, and Governor of Illinois in 1893. His pardon of the Anarchists caused much controversy. He died March 12, 1902.

Altitude, ni mathematics the perpendicular height of the vertex or apex of a plane figure or solid above the base. In astronomy it is the vertical height of any point or body above the horizion.

Alton, city in Madison county, Ill.; on the Mississippi river and several trunk line railroads; 3 miles above the mouth of the Missouri, 25 miles N. of St. Louis. It is built on a high bluff, with picturesque surroundings; has a costly bridge spanning the Mississippi; contains the Cathedral of Sts. Peter and Paul (R. C.) and several collegiate and charitable institutions; and ships lime, coal, and stone. Pop. (1910) 17,528.

Altoona, city in Blair county, Pa.; on the Pennsylvania railroad, at the E. base of the Alleghany mountains; 117 miles E. of Pittsburg. It is a mining, manufacturing, lumbering, and farming trade center for Central Pennsylvania; and, besides extensive machine shops of the Pennsylvania railroad, has large car works, rolling and planing mills, and other industrial plants, with annual product valued at over $15,000,000. Pop. (1910) 52,127.

Altranstädt, an important village in the Prussian Province of Saxony, near Lutzen. Through the Treaty of Altranstädt of Aug. 30, 1707, Charles XII. obtained from the Emperor Johann Joseph I. religious liberty and toleration for the Protestants of Silesia.

Altruism, a term used in psychology and ethics to denote disposition and conduct directed toward the well-being of others. It is contrasted with egoism, or self-seeking disposition and conduct.

Alum, the name given to double salts of sulphate of aluminum with sulphates of potassium, sodium, ammonium, or of other monatomic metals, as silver, thallium, cæsium, rubidium. They crystallize in octohedra. Alum has a sweet astringent taste, reddens litmus paper, and dissolves in its own weight of boiling water.

Aluminum, a metal discovered by Wöhler in 1827, as a gray powder, but in 1847 in the form of small, glittering metallic globules. It is a white metal, somewhat resembling silver, but possessing a bluish hue, which reminds one of zinc. It is very malleable and ductile, in tenacity it approaches iron, and it takes a high polish.

Alva, or **Alba, Ferdinand Alvarez de Toledo, Duke of,** prime minister and general of the Spanish armies under Charles V. and Philip II., was born in 1508, of one of the most illustrious families of Spain. He entered the army a mere youth, and fought in the wars of Charles V. in France, Italy, Africa, Hungary, and Germany. He is more specially remembered for his bloody and tyrannical government of the Netherlands (1567–1573), which had revolted, and which he was commissioned by Philip II. to reduce to entire subjection to Spain. Among his first proceedings was to establish the "Council of Blood," a tribunal which condemned, without discrimination, all whose opinions were suspected, and whose riches were coveted. The present and absent, the living and the dead, were subjected to trial and their property confiscated. Many merchants and mechanics emigrated to England; people by hundreds of thousands abandoned their country. The most oppressive taxes were imposed, and trade was

brought completely to a standstill. As a reward for his services to the faith, the Pope presented him with a consecrated hat and sword, a distinction previously conferred only on princes. Resistance was only quelled for a time, and soon the provinces of Holland and Zealand revolted against his tyranny. A fleet which was fitted out at his command, was annihilated, and he was everywhere met with insuperable courage. Hopeless of finally subduing the country, he asked to be recalled, and, accordingly, in December, 1573, Alva left the country, in which, as he himself boasted, he had executed 18,000 men. He died Jan. 12, 1582.

Alvary, Max, a German tenor, son of the painter, Andreas Achenbach, whose name, however, he never used, born at Düsseldorf, May 1, 1858. He was first a merchant; then an architect in Cologne; studied singing with Lamperti in Milan, and with Stockhausen in Frankfort-on-the-Main; and joined the court opera in Weimar. In 1884 he went to New York, where for five years he distinguished himself as "Tannhäuser," "Siegfried," "Tristan," "Loge," "Walter Stolzing," and other Wagnerian characters. In 1890, he returned to Germany and sang at the City Theater in Hamburg. He returned to the United States again in 1896. He died near Grosstabarz, Nov. 7, 1898.

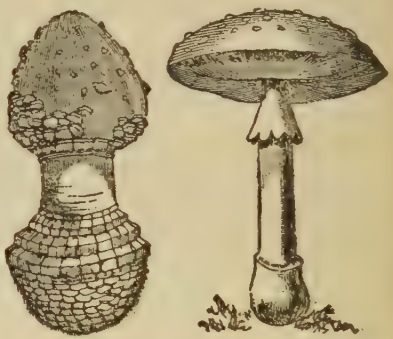
Amadeus, a common name in the house of Savoy. Amadeus I., of Spain, born in 1845, brother of King Victor Emmanuel of Italy, was elected King of Spain in 1870, abdicated in 1873, and died in 1890.

Amalfi, a city and seaport, in the Province of Salerno, Italy; on the Gulf of Salerno; 22 miles S. E. of Naples. It contained a cathedral with bronze doors cast in Constantinople in 1066, and a Capuchin monastery, which, in recent years, became a popular hotel. On Dec. 24, 1899, a portion of the rocks and land facing the Gulf suddenly slid into the water, carrying down the ancient monastery building and other structures.

Amalgam, the union or alloy of any metal with quicksilver (mercury).

Amana, a communistic German colony in Iowa, 28 miles W. of Iowa City, founded by the Amanites, who branched out from the so-called "Inspiration Congregation," consisting of seven villages, with over 2,000 inhabitants, which, through agriculture, wool and cotton spinning, have attained great prosperity.

Amanita, a genus of fungi, nearly allied to the mushrooms. Several of



YOUNG AMANITA. ADULT AMANITA.

the species are edible, notably the delicious orange (A. cæsarea), but the majority are poisonous.

Amarillo, city and capital of Potter county, Tex.; on the Fort Worth & Denver City railroad; 82 miles N. W. of Memphis; is in a stock raising and farming section; and is a shipping point for cattle and horses. Pop. (1910) 9,957.

Amaryllis, a genus of plants, the typical one of the order amaryllidaceæ.

Amati, a family of Cremona, in the 16th and 17th centuries, famous for their violins, which are at the present time valued very highly on account of their tone, which is beautiful and pure, though not very strong. They are sometimes called Cremona violins.

Amaurosis, a disease of the eye, arising from impaired sensibility of the retina.

Amazon, a river of South America, the largest in the world, formed by a great number of sources which rise in the Andes; general course N. of E.;

length, including windings, between 3,000 and 4,000 miles; area of drainage basin, 2,300,000 square miles.

Amazon, or **Amazone** (from a = without, and mazos = the breast, from the story that the Amazons cut off their right breast to prevent its interfering with the use of the bow), a nation on the river Thermodon, the modern Termeh in Pontus, in Asia Minor, said to consist entirely of women renowned for their love of manly sports, and as warriors. Men were excluded from their territory, and commerce was held only with strangers, while all male children born among them were killed.

Amber, as a mineral, called also succinite, from Latin succinum = amber. Its color is generally yellow, but sometimes reddish, brownish, or whitish and clouded. It is resinous in luster, always translucent, and sometimes transparent. It is brittle, and yields easily to the knife.

Ambergris, a substance derived from the intestines of the sperm whale, and found floating or on the shore.

Ambos Camarines, a province of Luzon, Philippine Islands, comprising two former provinces, and forming a long peninsula with its main frontage on the Pacific Ocean facing N. E. and E.; area, with dependent islands, 3,161 sq. m.; pop. (1903) 239,405, of whom 5,933 were wild; race, chiefly Vicoles.

Ambrose, St., a celebrated father of the Church; born in 333 or 334 A. D., probably at Treves, where his father was prefect; died in 397. He introduced the Ambrosian chant, and compiled a ritual known by his name.

Ambrosia, in Greek mythology, the food of the gods, as nectar was their drink.

Ambrosian Library, a public library in Milan, founded by the Cardinal Archbishop Federigo Borromeo, a relation of St. Charles Borromeo, and opened in 1609; now containing 160,000 printed books and 8,000 MSS. It was named in honor of St. Ambrose, the patron saint of Milan.

Ambrosius, Johanna, a German poet and story writer, born at Lengwethen, East Prussia, Aug. 3, 1854. Daughter of an artisan, and married in 1874 to a peasant's son by the name of Voigt, she led the hard life of a peasant woman till, in middle age, she wrote verses, which were published in a weekly newspaper; their success led to the publication of other poems and stories of hers, which have had extremely wide circulation.

Ambulance, a hospital establishment which accompanies an army in its movements in the field for the purpose of providing assistance and surgical treatment to the soldiers wounded in battle. The name is also given to one of the carts or wagons used to transfer the wounded from the spot where they fell to the hospital. Also to the vehicles used in cities to convey the very sick or injured to hospitals.

Amen, a Hebrew word of asseveration, equivalent to "Yea," "Truly," which has been commonly adopted in the forms of Christian worship. It is also used by the Mohammedans.

Amendment, in law, the correction of any mistake discovered in a writ or process.

In legislative proceedings, a clause, sentence, or paragraph proposed to be substituted for another, or to be inserted in a bill before Congress, and which, if carried, actually becomes part of the bill itself. As a rule amendments do not overthrow the principle of a bill.

In public meetings, a proposed alteration of the terms of a motion laid before a meeting for acceptance.

A Mensa et Thoro, a legal term used when a wife is divorced from her husband (as far as bed and board are concerned), liability, however, remaining on him for her separate maintenance.

Amenthes, the unseen world of the ancient Egyptians, the Hades of the Greeks, who borrowed their ideas about the lower world from Egypt.

America, or the **New World,** the largest of the great divisions of the globe except Asia, is washed on the W. by the Pacific, on the E. by the Atlantic, on the N. by the Arctic, and on the S. by the Antarctic Ocean. On the N. W. it approaches at Bering Straits within 48 miles of Asia, and on the N. E. Greenland approaches within 370 miles of the European island Iceland; but in the S. the dis-

tance between the American mainland and the E. continent is much greater, the shortest distance between its E. coast and the W. coast of Africa being 1,600 miles, and between its W. coast and the E. coasts of Asia and Australia from six to eight times more. The extreme points of America are — N., the point of Boothia Felix, in the Strait of Bellot, lat. 71° 56′ N., lon. 94° 34′ W.; S., Cape Froward, lat. 53° 53′ 45″ S., lon. 71° 18′ 30″ W., or, if the archipelago of Tierra del Fuego is included, Cape Horn, lat. 55° 59′ S., lon. 67° 16′ W.; W., Cape Prince of Wales, lat. 65° 33′ N., lon. 167° 59′ W.; and E., the Point de Guia, lat 7° 26′ S., lon. 34° 47′ W. The entire American continent has a length of about 9,500 miles; a maximum breadth, between Cape Prince of Wales and Cape Charles in North America, of 3,500 miles; a coast-line of 43,200 miles; and a total area, including the islands, estimated at about 15,896,000 square miles.

The climate of America, even in the equatorial regions, is characterized as comparatively cool and humid. This is justly ascribed to the vast extent of territory that may be classed as insular — to the copious waters of the interior, together with the magnificent vegetation produced by them — to the configuration of the surface and the nature of the soil — to the possession of a polar shore — and to the prevailing winds. The rainy zone is disproportionately extended in America; and as the continent stretches over all the zones, the vegetation is remarkably diversified, from the lowly moss of the N. to the lordly banana of the tropics. The giant coast chain of the Andes everywhere rises above the snow-line. From the sterile Peruvian coast, burned up by tropical heats, one can look up to summits covered with perpetual snow and ice; and one may climb from the gigantic equatorial vegetation of Quito to heights where only the condor testifies to the existence of organic life, and wings his flight over snow fields and glaciers. In Peru the culture of cereals is carried on at the height of 12,000, and near Quito at 9,000 feet. The N. and S. of America have the same length of day; out in the seasons, which depend not merely on astronomical but on a variety of local causes, the analogy does not hold, and very remarkable discrepancies appear. Thus, for example, the E. coast of Brazil has the rainy season from March to September, while Peru, lying under the very same latitude, has it from November to March. Within the tropics the transition from the rainy to the dry season takes place almost instantaneously; but in receding from the tropics on either side the change of seasons becomes more and more gradual, till at last in the polar zones, nature, bound in icy chains, affords for living existence only a short awakening out of a long winter sleep.

If America, in respect of the development of vegetable life, takes precedence of all other quarters of the globe, it cannot advance the same claim in respect of the animal world, though it must be admitted that here too it has its own peculiar features. The American jaguar and cougar, or puma, have not the majesty of the Asiatic tiger or the African lion; the tapir is only a very humble representative of the elephant or hippopotamus, and the llama falls far short of the camel. Still, America has many animals which belong only to itself. It has its own species of bears (the grizzly being most formidable), wolf, and deer, the bison and musk ox, with special kinds of squirrels, etc. To it also belong the Virginia stag, the wild sheep of California, the opossum, and raccoon. Characteristic of Central and South America are sloths, ant-eaters, and armadillos, the condor among the heights of the Andes, the most beautiful parrots as well as peculiar monkeys in the woods, the humming bird with its rich metallic plumage, the rattlesnake, the alligator or cayman on the banks of the streams, the electrical eel in the tropical waters, swarms of mosquitoes on the wide plains, and sea fowl in such numbers on the W. coast as to have furnished large deposits of guano, to which some of the richest countries of Europe are indebted for the means of extending and largely increasing the product of their agriculture.

The independent States of both North and South America are now all republican in their form of

government, though it was only in 1889 that Brazil became a republic instead of an empire. The different independent States are as follows: In NORTH AMERICA — 1. The United States; 2. Mexico; 3. Nicaragua; 4. Honduras; 5. Guatemala; 6. Costa Rica; 7. (San) Salvador. In the WEST INDIES — 8. Cuba; 9. Haiti; 10. San Domingo. In SOUTH AMERICA — 11. Venezuela; 12. Colombia; 13. Peru; 14. Ecuador; 15. Bolivia; 16. Argentine Republic; 17. Uruguay; 18. Paraguay; 19. Chile; 20. Brazil; 21. Panama. The European colonies in America are: the Dominion of Canada, including the provinces of Ontario, Quebec, Nova Scotia, New Brunswick, Manitoba, British Columbia, Prince Edward Island, and the Northwest Territories, etc.; Newfoundland; and the Bermudas, all belonging to Great Britain; Greenland, belonging to Denmark; and St. Pierre and Miquelon to France. The WEST INDIAN ISLANDS comprise the republics of Haiti, San Domingo, and Cuba; Porto Rico, formerly Spanish, is now a territory of the United States; the British possessions of Jamaica, Trinidad, Barbados, Grenada, St. Vincent, Tobago, St. Lucia, Antigua, Montserrat, St. Christopher, Anguilla, Nevis, Virgin Islands, Dominica, the Bahamas, Turk's Island, etc.; the French possessions of Guadeloupe and dependencies (including St. Bartholomew's), Martinique, the N. part of the island of St. Martin's; the Dutch possessions, the S. side of St. Martin's Curasao and its dependencies; Santa Cruz, St. Thomas and St. John's, possessions of Denmark which agreed by treaty (Jan. 24, 1902) to sell them to the United States. In South America the British possess (besides the Falkland Islands) an important part of Guiana, the remaining portions being owned respectively by the French and Dutch.

The merit of first unlocking the American continent to modern Europe belongs to the Genoese Christopher Columbus, who, after a voyage of discovery as dangerous as it was fortunate, discovered, in October, 1492, Guanahani, one of the Bahamas, and named it San Salvador. It is certain, however, that Europeans had in the earlier part of the Middle Ages, and on different occasions, discovered the American coasts. Northmen proceeding from Iceland discovered the N. polar land of Greenland. The Icelander Bjorne Herjulfson in 986, got a glimpse of the coasts of Massachusetts and Rhode Island, which in the year 1000 were visited by Leif the Lucky, and named by him Vinland. In 1388 and 1390 Niccolo and Antonio Zeni undertook voyages to the North Atlantic Ocean, and were wrecked on Frieslanda, probably the Faroe Islands; thereafter they saw a part of the N. E. coast of America, probably Nova Scotia, which they named Drogno. These discoveries, however, had no influence on the enterprise of Columbus, and cannot detract in the least from his merit; they were forgotten, and had never been made known to the inhabitants of the S. of Europe. Though Columbus was the first of his time who set foot on the New World, it has taken its name not from him, but from Amerigo Vespucci. The mainland was first seen in 1497 by Sebastian Cabot, who sailed under the patronage of Henry VII. of England.

American Federation of Labor, a general representative organization of the labor unions and societies of the United States; founded at Columbus, O., in December, 1886, as the successor of a somewhat similar association which dated back to 1866. Its principal objects are to promote the interests and influences of trades unions, to aid in creating new unions, and to advance the general cause of organized labor. It does not undertake, however, to exercise any absolute authority over affiliated societies, as is done by the Knights of Labor. It has been especially active in agitating for "eight-hour" legislation. The Federation is composed of 118 affiliated national unions, 38 state branches, 594 city central unions, and 27,000 local unions, and had a membership of over 2,000,000.

American Indians. See INDIANS, AMERICAN.

Americanisms, a word defined as a term, phrase, or idiom of the English language as spoken in America

(or in the United States) which either (a) originated in America; or, (b) is peculiar to America; or, (c) is chiefly employed in America. The following is a list of a few of the more noteworthy Americanisms:

Around or *round.*—About or near. To hang around is to loiter about.

Backwoods.—The partially cleared forest regions in the western states.

Bayou.—In Louisiana, a term given to a small stream. The same as "creek."

Bee.—An assemblage of persons to unite their labors for the benefit of an individual or family or to carry out a joint scheme.

Bogus.—False; counterfeit.

Boss.—An employer or superintendent of laborers; a leader.

Bulldoze, to.—To intimidate.

Bunco.—A swindling game.

Buncombe or *Bunkum.*—A speech made solely to please a constituency; talking for talking's sake, and in an inflated style.

Calculate.—To suppose, to believe, to think.

Camp-meeting.—A meeting held in the fields or woods for religious purposes, and where the assemblage encamp and remain for several days.

Car.—A carriage or wagon of a railway train. The Englishman "travels by rail," the American takes, or goes by, the cars.

Carpet-bagger.—A needy political adventurer who carries all his earthly goods in a carpet-bag; originally applied to politicians from the Northern States who sought offices in the South after the Civil War.

Caucus.—A private meeting of the leading politicians of a party to agree upon the plans to be pursued in an approaching election.

Chunk.—A short, thick piece of wood or any other material.

Corn.—Maize. In England, wheat or grain in general.

Corn-husking or *Corn-shucking.*—An occasion on which a farmer invites his neighbors to assist him in stripping the husks from his corn.

Creek.—A small tributary of a large river. Used chiefly in the West.

Dead-heads.—People who have free admission to entertainments, or who have the use of public conveyances, or the like, free of charge.

Down East.—In or into the New England States. A down-easter is a New Englander.

Drummer.—A commercial traveler.

Dry goods.—A general term for such articles as are sold by linen-drapers, haberdashers, hosiers, etc., in England.

Fix, to.—To put in order, to prepare, to adjust. To fix the hair, the table, the fire, is to dress the hair, lay the table, make up the fire.

Fixings.—Arrangements, dress, embellishments, luggage, furniture, garnishments of any kind.

Fork.—Used in the Southwest in a similar sense to "creek."

Freeze out.—To get rid of objectionable persons.

Gerrymander.—To arrange political divisions so that in an election one party may obtain an advantage over its opponent, even though the latter may possess a majority of votes.

Grab.—To gain a privilege without proper payment.

Greenback.—A former kind of paper money.

Guess, to.—To believe, to suppose, to think.

Gulch.—A deep, abrupt ravine, caused by the action of water.

Happen in, to.—To happen to come in or call.

Hatchet, to bury or *take up the.*—To end or begin war.

Help.—The labor of hired persons collectively; the body of servants belonging to a farm or household or factory.

Hoe-cake.—A cake of corn meal baked on or before the fire.

Hoodlum.—A rough.

How!—Indian abbreviation of "How do you do?"

Jolly, to.—To flatter, to tease, to poke fun at.

Johnny cake.—A cake made of corn meal mixed with milk or water.

Log-rolling.—The assembly of several parties of wood-cutters to help one of them in rolling their logs to the river after they are felled and trimmed; also employed in politics to signify a like system of mutual co-operation.

Lynch law.—An irregular species of justice executed by the people or a mob, without legal authority or trial.

Mail letters, to.—To post letters.

Make tracks, to.—To run away.

Mush.— A kind of hasty-pudding.
Nickel.— A five-cent coin.
Notions.— A term applied to every variety of small wares.
One-horse.— A one-horse thing is a thing of no value or importance; a mean or trifling thing.
Oxbow.— The bend in a river or the land inclosed within such a bend.
Peart (in the South).— Equal to smart or well.
Piazza.— A veranda.
Picayune.— A trifle.
Pickaninny.— A negro child.
Pile.— A quantity of money.
Planks.— In politics, the several principles which appertain to a party; "platform" is the collection of such principles.
Pull.— A special individual favor.
Reckon, to.— To suppose, to think.
Right smart.— Very well.
Roast, to.— To criticise severely.
Scab.— A non-union workman.
Scalawag.— A scamp, a scapegrace.
Shake.— To leave a person.
Skedaddle, to.— To run away, a word introduced during the Civil war.
Smart.— Used in the sense of considerable, a good deal, as a smart chance; also equal to well, as "right smart," very well.
Stakes, to pluck or *pull up.*— To remove.
Stampede.— The sudden flight of a crowd, or of cattle or horses.
Stiff.— In medical schools, a corpse.
Store.— Same as shop in Great Britain; as a book store, a grocery store.
Strike oil, to.— To come upon petroleum; hence, to make a lucky hit, especially financially.
Stump speech.—A speech calculated to please the popular ear, such speeches in newly settled districts being often delivered from the stumps of trees.
Ticker.— A watch; also a telegraph receiver.
Ticket, to vote the straight.— To vote for all the men or measures on the ticket.
Truck.— The small produce of gardens; *truck patch*, a plot in which the smaller fruits and vegetables are raised.
Turn down, to.— To reject or ignore; used of office seekers especially.
Vamose, to.— To run off.
Vendue.— An auction; to vendue, to sell at auction.
Whoop it up.— To create an excitement.
Wilt.— To become soft or languid, to lose energy, pith, or strength.

American Municipal League, an organization with branches in all important American and Canadian cities, founded for the promotion of municipal administration.

American Party, The, the name of three separate organizations which at different times held a prominent place in the political affairs of the United States. The first, organized about 1852, at a time when the Whig Party was near its dissolution was, in fact, a secret society, and was better known in later years as the "Know Nothings," from the assumed ignorance of its members when questioned in regard to the objects and name of the order. Its principal doctrine was opposition to all foreigners and Roman Catholics, and its motto was "Americans must rule America." The first National Convention of the Party was held in February, 1856, at which resolutions were adopted, demanding a lengthening of the residence necessary to naturalization, and condemning President Pierce's administration for the repeal of the Missouri Compromise. A number of the members withdrew because of the refusal to consider a resolution regarding the restriction of slavery. Millard Fillmore, of New York, was nominated for President, and Andrew Jackson Donelson for Vice-President, which nominations were subsequently indorsed by a Whig Convention. Fillmore carried but one State, Maryland; his popular vote being about 850,000. The party was successful in carrying the State elections in Rhode Island and Maryland in 1857, but never gained any popularity in the Western States. A second party, bearing the same name, but directly adverse to the first in that it was founded in opposition to secret societies, was organized for political purposes by the National Christian Association, at the adjournment of a convention held by the latter body at Oberlin, O., in 1872. The organization was completed and the name adopted at a convention in Syracuse, N. Y., in 1874. At Pittsburg,

June 9, 1875, a platform was adopted in which were demanded recognition of the Sabbath, the introduction of the Bible into public schools, prohibition of the sale of liquors, the withdrawal of the charters of secret societies, and legislative prohibition of their oaths, arbitration of international disputes, the restriction of land monopolies, resumption of specie payment, justice to the Indians, and a direct popular vote for President and Vice-President. James B. Walker of Illinois was nominated for President. In 1880, the party again made nominations, and in 1884, S. C. Pomeroy was nominated, but withdrew in favor of John P. St. John, the Prohibition candidate. The third party to be called by the name of American Party was organized at a convention held at Philadelphia, Sept. 16–17, 1887. Its principal aims, as set forth in its platform, were, to oppose the existing system of immigration and naturalization of foreigners; to demand its restriction and regulation so as to make a 14-years' residence a prerequisite of naturalization; to exclude from the benefits of citizenship all anarchists, and other dangerous characters; to defend free schools; to condemn alien proprietorship; to declare for the permanent separation of Church and State, and in favor of the enforcement of the Monroe Doctrine. But little has been heard of the American Party in the past few years.

American Protective Association, popularly known as the "A. P. A.," a secret order organized throughout the United States, with branches in Canada, which has attracted much attention by its aggressive platform and active agitation. Its chief doctrine, as announced in its declaration of principle, is that "subjection to and support of any ecclesiastical power not created and controlled by American citizens, and which claims equal, if not greater, sovereignty than the Government of the United States of America, is irreconcilable with American citizenship;" and it accordingly opposes "the holding of offices in National, State, or Municipal Government by any subject or supporter of such ecclesiastical power." Another of its cardinal purposes is to prevent all public encouragement and support of sectarian schools. It does not constitute a separate political party, but seeks to control existing parties, and to elect friendly and defeat objectionable candidates, by the concerted action of citizens affiliated with all parties. The order was founded March 13, 1887, and claims a membership of about 2,000,000.

American Psychological Association, an organization founded in 1892 for the advancement of psychology as a science.

American Social Science Association, a society organized in 1865.

American Society of Civil Engineers, an association instituted in 1852; holds two meetings each month (excepting in July and August) at headquarters, 220 W. 57th st., New York city; membership, 2,200.

American Society of Mechanical Engineers, an organization chartered in 1881; annual dues, members and associates, $15; juniors, $10; entrance fee, members and associates, $25, juniors, $15; membership unlimited; holds two meetings annually; headquarters, 12 W. 31st St., New York city.

American System, a term used by Henry Clay and applied to his plan of protective duties and internal improvements, as proposed in the debates in Congress which resulted in the tariff law of 1824. At present it is used to denote the policy of protection to home industries by means of duties on imports.

America's Cup, a yachting trophy, originally known as the Queen's Cup, offered as a prize to the yachts of all nations by the Royal Yacht Squadron of Great Britain, in 1851. The first contest for it was held Aug. 22 of that year, when it was won by the American yacht "America," whose owners deeded it in trust to the New York Yacht club. The subsequent success of American yachts in keeping the cup caused it to become known as the "America's" Cup.

In 1903 Sir Thomas Lipton presented Shamrock III. as challenger for the America's Cup, Reliance, built by the Herreshoffs, being presented as defender of the Cup by an American syndicate, with Mr. Iselin as manager. Several of the races were called off

RECORD OF CONTESTS FOR THE AMERICA'S CUP.

Date.	Names of Yachts.	Course.	Time. H. M. S.
Aug. 22, 1851	America	From Cowes, around the Isle of Wight, English Channel	10 37 00
	Aurora		.. .. ..
Aug. 8, 1870	Magee	N. Y. Y. C. course, about 39 miles	3 58 21
	Cambria		4 37 38
Oct. 16, 1871	Columbia	N. Y. Y. C. course	6 10 44
	Livonia		6 46 45
Oct. 18, 1871	Columbia	20 miles to windward off Sandy Hook lightship, and return	3 07 41
	Livonia		3 18 15
Oct. 19, 1871	Livonia	N. Y. Y. C. course — Columbia disabled	4 02 25
	Columbia		4 17 35
Oct. 21, 1871	Sappho	29 miles to windward off Sandy Hook lightship and return	5 39 02
	Livonia		6 09 23
Oct. 23, 1871	Sappho	N. Y. Y. C. course	4 16 17
	Livonia		5 11 55
Aug. 11, 1876	Madeleine	N. Y. Y. C. course	5 23 54
	Countess of Dufferin.		5 34 53
Aug. 12, 1876	Madeleine	20 miles to windward off Sandy Hook lightship, and return	7 18 40
	Countess of Dufferin.		7 46 00
Nov. 9, 1881	Mischief	N. Y. Y. C. course	4 17 00
	Atalanta		4 45 39
Nov. 10, 1881	Mischief	16 miles to leeward from buoy 5 off Sandy Hook lightship, and return	4 54 32
	Atalanta		5 33 47
Sep. 14, 1885	Puritan	N. Y. Y. C. course	6 06 05
	Genesta		6 22 24
Sep. 16, 1885	Puritan	20 miles to leeward off Sandy Hook lightship, and return	5 03 14
	Genesta		5 04 52
Sep. 9, 1886	Mayflower	N. Y. Y. C. course	5 26 41
	Galatea		5 38 43
Sep. 11, 1886	Mayflower	20 miles to leeward off Sandy Hook lightship, and return	6 49 10
	Galatea		7 18 09
Sep. 27, 1887	Volunteer	N. Y. Y. C. course	4 53 18
	Thistle		5 12 41
Sep. 30, 1887	Volunteer	20 miles off Scotland lightship, and return	5 42 56
	Thistle		5 54 45
Oct. 7, 1893	Vigilant	15 miles to windward off Sandy Hook, and return	4 05 47
	Valkyrie		4 11 35
Oct. 9, 1893	Vigilant	Irregular course: 10 miles to a length	3 25 01
	Valkyrie		3 55 36
Oct. 13, 1893	Vigilant	15 miles to windward off Sandy Hook, and return	3 24 30
	Valkyrie		3 25 15
Sep. 7, 1895	Defender	15 miles to windward off Sandy Hook, and return	4 59 54
	Valkyrie III		5 08 43
Sep. 10, 1895	Defender	15 miles to windward off Sandy Hook, and return	3 55 56
	Valkyrie III		3 55 09
Sep. 12, 1895	Defender	15 miles to windward off Sandy Hook, and return	4 48 48 *
	Valkyrie III		
Oct. 20, 1899	Columbia	15 miles to windward off Sandy Hook, and return	3 38 09
	Shamrock		3 44 43
Oct. 3, 1901	Columbia	30 miles triangular course	3 12 35
	Shamrock II		3 16 10
Oct. 4, 1901	Columbia	15 miles leeward and back	4 32 57
	Shamrock II		4 33 38
Sep. 3, 1903	Reliance	15 miles to leeward off Sandy Hook, and return	4 00 28 †
	Shamrock III		

* Did not finish.
Shamrock II. finished first, but lost race on time allowance of 43 seconds.
† Reliance won by 11 minutes.

on account of the time limit, Reliance being ahead in all of them, as well as in the three races which decided the contest. In the final race, Thursday, Sept. 3, Reliance started at 1:01:56

THE AMERICA'S CUP.

p. m., Shamrock at 1:02:00 p. m. Reliance turned the outer mark at 3:40:30, to Shamrock III.'s 3:51:40. Reliance won the race in four hours and twenty-eight minutes.

Amerigo Vespucci. See VESPUCCI.

Ames, Adelbert, an American military officer, born in 1835; graduated at West Point, 1861; became Brigadier-General and brevet Major-General United States Volunteers, in the Civil War; Provisional Governor of Mississippi, 1868; resigned army commission, 1870; United States Senator from Mississippi, 1870–1873, Governor 1874–1876; and Brigadier-General United States Volunteers in the war with Spain, 1898.

Ames, Charles Gordon, an American clergyman, editor, and lecturer, born in Dorchester, Mass., Oct. 3, 1828. He graduated at the Geauga Seminary, Ohio; was ordained in 1849 as a Free Baptist, but later became a Unitarian, and pastor of the Church of the Disciples, Boston. He was editor of the Minnesota "Republican" and the "Christian Register," of Boston. He wrote "George Eliot's Two Marriages," some poems, etc.

Ames, Eleanor Kirk, an American author, born at Warren, R. I., Oct. 7, 1831. Among her many books are "Information for Authors," "Beecher as a Humorist," "The Influence of the Zodiac on Human Life," etc. She died June 24, 1908.

Ames, Fisher, an American orator and statesman, born in Dedham, Mass., April 9, 1758. Admitted to the bar in 1781, he became a member of Congress in 1789, where he gained a national reputation by his oratory. Two of his finest efforts were in support of John Jay's treaty with Great Britain, and a eulogy on Washington before the Massachusetts Legislature. He was elected president of Harvard College in 1804, but declined. A brilliant talker, he was distinguished in conversation for wit and imagination, while his character was spotless. His works consist of orations, essays, and letters (2 vols., 1854). He died in Dedham, July 4, 1808.

Ames, Mary Clemmer, an American author, born in Utica, N. Y., in 1839; was a frequent contributor to the Springfield "Republican," and afterward to the New York "Independent." Married to and divorced from the Rev. Daniel Ames, she became, in 1883, the wife of Edward Hudson at Washington. Among her works are a volume of "Poems" (1882); and biographies of Alice and Phoebe Cary. She died in Washington, D. C., Aug. 18, 1884.

Ametabola, a class of wingless insects, which do not undergo metamorphosis. They include bird lice, etc.

Amethyst, a precious stone, a variety of quartz, named by Dana amethystine quartz. The Oriental amethyst is a rare purple variety of sapphire. The best specimens are brought from India, Armenia, and Arabia.

Amharic, or **Amarinna,** a Semitic language with an intermixture of African words; since the 14th cen-

tury the court and official language of Abyssinia.

Amherst College, an educational institution in Amherst, Mass.; founded in 1821 and incorporated in 1825.

Amiel, Henri Frederic, a distinguished Swiss essayist, philosophical critic, and poet, born at Geneva, Sept. 27, 1821. He died in Geneva, March 11, 1881.

Ammen, Daniel, an American naval officer, born in Brown county, O., May 15, 1820; entered the United States navy, July 7, 1836. He was executive officer of the North Atlantic Blockading Squadron at the outbreak of the Civil War. From 1861 to 1865 he rendered signal service in the attacks on Port Royal, Fort Macallister, Fort Fisher, and both the ironclad attacks on Fort Sumter. On June 4, 1878, he was retired with the rank of Rear-admiral. He was the designer of the Ammen life raft and harbor defense ram. Among his works are "The Old Navy and the New," and "Navy in the Civil War" (1883). He died in Washington, D. C., July 11, 1898.

Ammergau, Ober- and **Unter,** two adjoining villages in Upper Bavaria, in the higher part of the valley of the Ammer, 42 miles S. W. by S. of Munich. Ober-Ammergau is noted for the performance of the "Passion Play," a series of dramatic representations of the sufferings of Christ, which is produced every tenth year by about 500 performers, in accordance with a vow made at the time of the pestilence of 1634. During the intervening years, the actors give a series of representations of Old Testament legends. The performance generally lasts seven or eight hours, often without intermission, and is partly a religious service and partly a popular festival. In 1889, a theater was built just outside the place, with a stage and auditorium capable of seating 6,000 persons. On the height near by is a colossal memorial of "Christ on the Cross, with Mary and John," modeled by Halbig, the gift of King Ludwig II.

Ammianus Marcellinus, a Roman historian, born of Greek parents at Antioch, in Syria, about 330.

Ammon, the eponymic ancestor of a people, known in Hebrew and Biblical history as the "children of Ammon" or Ammonites; frequently mentioned in the Old Testament. According to the account in Genesis (xix: 38), Ammon was the son of Lot.

Ammon, a god of the ancient Egyptians, worshipped especially in Thebes (No-Ammon), and early represented as a ram with downward branching horns, the symbols of power; as a man with a ram's head; and as a complete man with two high feathers on his head, bearded, sitting on a throne, and holding in his right hand the scepter of the gods, in his left the handled cross, the symbol of divine life. The worship of Ammon spread at an early period to Greece, and afterward to Rome, where he was identified with Zeus and Jupiter.

Ammonia, a colorless, pungent gas, with a strong alkaline reaction. It can be liquefied at the pressure of seven atmospheres at 15°. Ammonia is obtained by the dry distillation of animal or vegetable matter containing nitrogen; horns, hoofs, etc., produce large quantities; hence its name of spirits of hartshorn. Guano consists chiefly of urate of ammonia. But ammonia is now obtained from the liquor of gasworks, coal containing about 2 per cent. of nitrogen. It is used in medicine as an antacid and stimulant; it also increases the secretions. Externally, it is employed as a rubefacient and vesicant. Ammonia is used as an antidote in cases of poisoning by prussic acid, tobacco, and other sedative drugs.

AMMONITES.

Ammonite, a large genus of fossil chambered shells.

Ammonites, a Semitic race of people, living on the edge of the Syrian Desert; according to Gen. xix: 38, the descendants of Lot, and closely akin to the Moabites. They inhabited the country lying to the N. of Moab, between the rivers Arnon and Jabbok. Their chief city was Rabbath-Ammon. The Israelites were often at war with them. From the name of their princes, it is evident that their language was closely akin to Hebrew. Their chief deity was Moloch.

Amnesty, an act of oblivion passed after an exciting political period. Its object is to encourage those who have compromised themselves by rebellion or otherwise to resume their ordinary occupations, and this it does by giving them a guarantee that they shall never be called upon to answer for their past offenses.

Amor, the god of love among the Romans, equivalent to the Greek Eros.

Amorites, a powerful tribe of Canaanites, who inhabited the country N. E. of the Jordan, as far as Mount Hermon.

Amos, one of the so-called minor prophets of the Hebrews, was a herdsman of Tekoa, in the neighborhod of Bethlehem, and also a dresser of sycamore trees. During the reigns of Uzziah in Judah, and Jeroboam II. in Israel (about 800 B. C.), he came forward to denounce the idolatry then prevalent.

Amoy, a seaport town and one of the treaty ports of China; on a small island of the same name in the Province of Fukien; 325 miles E. by N. E. of Canton, and directly opposite the island of Formosa. During the international military operations in China, in 1900, the city was occupied by the Japanese.

Ampere, the practical unit of electric current strength. It is the measure of the current produced by an electro-motive force of one volt through a resistance of one ohm. In electric quantity it is the rate of one coulomb per second.

Ampere, Andre Marie, a French mathematician and physicist, was born at Lyons in 1775. He died at Marseilles, June 10, 1836.

Amphibia, in zoology, animals which can live indiscriminately on land or water, or which at one part of their existence live in water and at another on land.

Amphictyonic Council, a celebrated council of the States of ancient Greece. The members of this confederation bound themselves by an oath not to destroy any city of the Amphictyons, nor cut off their streams in war or peace, and to employ all their power in punishing those who did so, or those who pillaged the property of the god, or injured his temple at Delphi.

Amphion, in mythology, the son of Jupiter and Antiope; the eldest of the Grecian musicians. To express the power of his music, and, perhaps, of his eloquence, the poets said, that, at the sound of his lyre, the stones voluntarily formed themselves into walls; that wild beasts, and even trees, rocks, and streams, followed the musician.

Amphipolis, an important city of Thrace or Macedonia; at the mouth of the Strymon river; 33 miles from the Ægean. The site is now occupied by the Turkish town of Yenikeui.

Amphitheater, a double theater. The ancient theaters were nearly semicircular in shape; or, more accurately, they were half ovals, so that an amphitheater, theoretically consisting of two theaters, placed with their concavities meeting each other, was, loosely speaking, a nearly circular, or, more precisely, an oval building. The Romans built amphitheaters wherever they went. Remains of them are still to be found in various parts of Europe; but the most splendid ruins existing are those of the Coliseum at Rome, which was said to have held 87,000 people.

Amsterdam, a city in Montgomery county, N. Y.; on the Mohawk river and several trunk line railroads; 33 miles N. W. of Albany; is especially noted for its manufactures of knit goods, carpets, steel springs, and paper. Pop. (1910) 31,267.

Amsterdam ("dam" or "dike of the Amstel"), the capital of the Netherlands. Almost the whole city, which extends in the shape of a crescent, is founded on piles driven 40 or 50 feet through soft peat and sand to a firm substratum of clay.

The population, which from 217,024 in 1794, sank to 180,179 in 1815, rose steadily to the present figure of over half a million, of whom the majority belong to the Dutch Reformed Church. Of the remainder, about 80,000 are Catholics, 30,000 German Jews, and 3,200 Portuguese Jews. The chief industrial establishments are sugar refineries, engineering works, mills for polishing diamonds and other precious stones, dockyards, manufactories of sails, ropes, tobacco, silks, gold and silver plate and jewelry, colors, and chemicals, breweries, distilleries, with export houses for corn and colonial produce; cotton-spinning, book-printing, and type-founding are also carried on. The present Bank of the Netherlands dates from 1824, Amsterdam's famous bank of 1609 having been dissolved in 1796.

Amulet, anything hung around the neck, placed like a bracelet on the wrist, or otherwise attached to the person, as an imagined preservative against sickness, witchcraft, or other evils. Amulets were common in the ancient world, and they are so yet in nations where ignorance prevails.

AMPHORÆ.

Amur, a river formed by the junction (about 53° N. lat., and 121° E. long.) of the Shilka and the Argun, which both come from the S. W.—the former rising in the foothills of the Yablonoi Mountains. From the junction, the river flows first S. E. and then N. E., and, after a total course of 3,060 miles, falls into the Sea of Okhotsk, opposite the island of Sakhalin. Its main tributaries are the Sungari and the Ussuri, both from the S. Above the Ussuri, the Amur is the boundary between Siberia and Manchuria; below it, the river runs through Russian territory.

Amylic Alcohol, one of eight alcohols having the same chemical formula, but with different properties. Two of these are large constituents of fusel oil. The union of some of these alcohols with the compound ethers, produce odors resembling pineapple, strawberries, etc. Therefore fusel oil is often used in making artificial fruit flavors. The poisonous properties of fusel oil, make such products highly dangerous and justify the prohibitive legislation which has been enacted in some of the States.

Anabaptists, a name given in reproach A. D. 253 by Stephen, Bishop of Rome, to the Christians of Asia Minor, Cappadocia, Galatea and Cilicia, who held that no baptism was valid but that administered to adults by immersion. They are mentioned by Tertullian and Agrippinus. The sect appeared in 1520. The most eminent of its early leaders were Thomas Munzer Mark Stubner, and Nicholas Storck. They had been disciples of Luther; but, becoming dissatisfied with the moderate character of his reformation, they cast off his authority, and attempted more sweeping changes than he was prepared to sanction. During his absence, they, in 1521, began to preach their doctrines at Wittenberg. Laying claim to supernatural powers, they saw visions, uttered prophecies, and made an immense number of proselytes. The ferment which the exciting religious events taking place in Central Europe had produced in men's minds, had made them impatient of social or political as well as of spiritual despotism; and, in 1525, the peasants of Suabia, Thuringia, and Franconia, who had been much oppressed by their feudal superiors, rose in arms, and commenced a sanguinary struggle, partly, no doubt, for religious reformation, but chiefly for political emancipation. The Anabaptists cast in their lot with the insurgent peasantry, and became their leaders in battle. After a time the allied princes of the empire, led by Philip, Landgrave of Hesse, put down the rebellion, and Munzer was defeated, captured, put to the torture, and ultimately beheaded. In 1532, some extreme Ana-

baptists from Holland, led by a baker called John Matthias, and a tailor, John Boccoldt, called also, from the place whence he came, John of Leyden, seized on the city of Munster, in Westphalia, with the view of setting up in it a spiritual kingdom, in which, at least nominally, Christ might reign. The name of Munster was changed to that of Mount Zion, and Matthias became its actual king. Having soon after lost his life in a mad, warlike exploit, the sovereignty devolved on Boccoldt, who, among other fanatical freaks, once promenaded the streets of his capital in a state of absolute nudity. On June 24, 1535, the Bishop of Münster retook the city by force of arms, and Boccoldt was put to death in the most cruel manner that could be devised. The excesses of the Anabaptists were eagerly laid hold of to discredit the Reformation.

Anabasis, the name given by Xenophon to his celebrated work describing the expedition of Cyrus the younger against his brother Artaxerxes Mnemon, King of Persia.

Anaconda, a large serpent of the boa family, common in inter-tropical America. The head is comparatively small, conical, very flat below, and truncated in front. The color is grayish-brown or olive above, with two rows of large black spots running down the back and tail; the sides are adorned with black rings on a yellow ground; the under surface is ochre-yellow with black spots. The anaconda is the largest of living snakes, sometimes reaching a length of over 30 feet. Brazil and Guiana form its chief habitat. It always lives in or in the neighborhood of water; lies in wait for its prey in the water, or stretched on the sand; seldom attacks man; and during the dry season buries itself and becomes torpid.

Anacreon, a renowned lyric poet of Greece, born at Teos in Ionia, 562 (?) B. C. He died 477 B. C.

Anæmia, bloodlessness; a morbid state of the system produced by loss of blood, by deprivation of light and air. The patient is characterized by great paleness, and blood-vessels, easily traceable at other times, become unseen after great hemorrhage, or in cases of anæmia.

Anæsthesia (Greek, "lack of sensation"), a term used to express a loss of sensibility to external impressions, which may involve a part or the whole surface of the body. It may occur naturally as the result of disease, or may be produced artificially by the administration of anæsthetics, such as ether, etc.

The fact that sulphuric ether could produce insensibility was shown by the American physicians, Godwin (1822), Mitchell (1832), Jackson (1833), Wood and Bache (1834); but it was first used to prevent the pain of an operation in 1846, by Dr. Morton, a dentist of Boston.

The employment of general anæsthetics in surgery has greatly increased the scope of the surgeon's usefulness, and has been a great boon to suffering humanity. It is, however, fraught with a certain amount of danger. However much care may be taken in its administration, an occasional fatal accident occurs from the action of the anæsthetics employed. In these cases, there is generally disease of the heart, or a hyper-sensitive nervous system, predisposing to sudden sinking, or to shock.

Local anæsthesia, artificially produced, is of great value in minor operations, and, in painful affections of limited areas of the body. It may be induced by the application of cold, or of medical agents.

Anagram, the letters of any word read backward, or transposed to make a new word or sentence, which has some reference to the original.

Anahuac, a term signifying, in the old Mexican language, "near the water," the original name of the ancient kingdom of Mexico.

Analogy, similitude of relations between one thing and other. The thing to which the other is compared is preceded by to or with. When both are mentioned together they are connected by the word between.

Analysis, in ordinary language, the act of analyzing; the state of being analyzed; the result of such investigation. The separation of anything physical, mental, or a mere conception into its constituent elements.

Anam, or **Annam,** a name given by the Chinese in the 3d century A. D.

to an empire occupying the E. side of the Indo-Chinese peninsula, along the China Sea. It comprised Tonkin in the N.; Cochin-China in the S.; and the territory of the Laos tribes S. W. of Tonkin; with an aggregate area of 196,500 square miles, and a population of 15,000,000. Since the French occupation in 1884 Anam while theoretically still a native monarchy, administratively forms the central division of French Indo-China with an area of 52,100 square miles. The King rules with a council of six members under the supervision of a French resident at Hué. Pop. 6,124,000.

Anarajapura, or **Anuradhapoora**, a ruined city, the ancient capital of Ceylon, built about 510 B. C., and said to have covered an area of 200 square miles. The spacious main streets seemed to have been lined with elegant structures. There are still several dagobas in tolerable preservation, but the great object of interest is the remains of the sacred Bo-tree planted over 2,000 years ago, and the oldest historical tree in the world.

Anarchists, a revolutionary sect or body setting forth as the social ideal the extreme form of individual freedom, and holding that all government is injurious and immoral, that the destruction of every social form now existing must be the first step to the creation of a new world. Their recognition as an independent sect may be dated from the secession of Bakunin and his followers from the Social Democrats at the congress of the Hague in 1872, since which they have maintained an active propaganda. The congress at London in 1881 decided that all means were justifiable as against the organized forces of modern society. The Haymarket explosion at Chicago, May 4, 1886, and the assassination of President McKinley, Sept, 6, 1901, are the only violent manifestations of anarchism that have been shown in the United States. Their principal journals have been *La Révolte* (Paris), the *Freiheit* (New York), *Liberty*, (Boston), and the *Anarchist*, (London).

Anastasius, the name of four Popes, the first and most eminent of whom held that office for only three years (398-401). He enforced celibacy on the clergy, and was an opponent of the Manichæans and Origen.

Anathema, a word originally signifying some offering or gift to the gods, generally suspended in the temple. It also signifies a thing that has been devoted to destruction (the equivalent of the Hebrew Cherem); and was ultimately used in its strongest sense, implying perdition, as in Rom. ix., 3: Gal, i., 8-9. In the Roman Catholic Church, from the 9th century, a distinction has been made between excommunication and anathematizing; the latter being employed only against obstinate offenders.

Anatomy, in the literal sense, means simply a cutting up, but is now generally applied both to the art of dissecting or artificially separating the different parts of an organized body (vegetable or animal) with a view to discover their situation, structure, and economy; and to the science which treats of the internal structure of organized bodies. The branch which treats of the structure of plants is called vegetable anatomy or phytotomy, and that which treats of the structure of animals animal anatomy or zoötomy, a special branch of the latter being human anatomy or anthropotomy. Comparative anatomy is the science which compares the anatomy of different classes with quadrupeds, or that of quadrupeds with fishes; while special anatomy treats of the construction, form, and structure of parts in a single animal. The history of anatomy is virtually the history of medicine, the practice of which is based upon the revelations of anatomical study.

Among the ancient writers or authorities on human anatomy may be mentioned Hippocrates the younger (460-377 B.C.), Aristotle (384-322 B.C.), Herophilus and Erasistratus of Alexandria, (about 300 B.C.,), Celsus (53 B.C.—37 A.D.), and Galen of Pergamus (140-200), the most celebrated of all the ancient authorities on the science. From his time till the revival of learning in Europe in the 14th century anatomy was checked in its progress. In 1315 Mondino, professor at Bologna, first publicly performed dissection, and published a System of Anatomy, which was a text-book in the schools of Italy for about 200 years. In the 16th century Fallopio of

Padua, Eustachi of Venice, Vesalius of Brussels, Varoli of Bologna, and many others, enriched anatomy with new discoveries. In the 17th century Harvey discovered the circulation of the blood, Asellius discovered the manner in which the nutritious part of the food is conveyed into the circulation, while the lymphatic system was detected and described by the Dane T. Bartoline. Among the renowned anatomists of later times we can only mention Malpighi, Boerhaave, William and John Hunter, the younger Meckel, Bichat, Rosenmuller, Quain, Sir A. Cooper, Sir C. Bell, Carus, Joh, Muller, Hæckel, Owen, and Huxley, and the Americans, Jeffries Wyman, Dwight, Leidy, Marsh, and Cope.

Anaxagoras, a famous Greek philosopher of the Ionic school, born about 500 (?) B. C. He explained eclipses and advanced physical science.

Anaximander, a Greek mathematician and philosopher, successor of Thales as head of the physical school of philosophy, was born at Miletus, in 611 B. C. He is said to have discovered the obliquity of the ecliptic, and he certainly taught it. He appears to have applied the gnomon, or style set on a horizontal plane, to determine the solstices and equinoxes. The invention of maps is ascribed to him.

Anaximenes, a philosopher of Miletus, flourished about 556 B. C. Pliny attributes to him the invention of the sun-dial.

Anchoret, Anachoret, or **Anchorite,** any person who, from religious motives, has renounced the world, and retired into seclusion.

Anchovy, a fish which belongs to the herring family. In general, its length is from 4 to 5 inches; but specimens are found 7½ inches long.

Anchovy Pear, a tree, with large leaves, which grows in the West Indies. The fruit which is eaten, tastes like that of the mango.

Ancus Marcius, the fourth King of Rome was the grandson of King Numa Pompilius. He died in 616 B. C., after reigning 24 years.

Andalusia, a large and fertile region occupying the S. of Spain. Its shores are washed both by the Mediterranean and the Atlantic; and, though it is not now a political division of Spain, it is more frequently spoken of than the eight modern provinces into which it has been divided. Its breeds of horses and mules have long been celebrated. The mountains yield silver, copper, lead, iron, and coal; and some ores are extensively worked. The Andalusians speak a dialect of Spanish, manifestly tinctured with traces of Arabic. Andalusia is divided into the Provinces of Almeria, Jaen, Malaga, Cadiz, Huelva, Seville, Cordova, and Granada. The chief towns are Seville, Cordova, and Cadiz. Area, 33,663 square miles. Pop. 3,450,209

Andamans, a group of thickly wooded islands toward the E. side of the Bay of Bengal, about 680 miles S. of the Hooghly mouth of the Ganges, with a British convict settlement. In 1872 Lord Mayo, Viceroy of India, was assassinated on Viper Island, by a Mussulman convict. Pop. 18,190.

Andersen, Hans Christian, a Danish novelist, poet, and writer of fairy tales; born in Odense, April 2, 1805. Hans learned to read and write in a charity school. After many struggles he became a successful author, and his fairy tales gained worldwide fame. He died in Roligheid, Aug. 4, 1875. Andersen's tales show humor and tenderness.

Anderson, city and capital of Madison county, Ind.; on a branch of the White river, a notable hydraulic canal, and several railroads; 35 miles N. E. of Indianapolis; is abundantly supplied with natural gas, and manufactures iron, steel, glass, wire, paper, brass, lumber and machinery. Pop. (1910) 22,476.

Anderson, Alexander, an American wood engraver, born in New York city, April 21, 1775; began engraving on copper and type metal when 12 years old, without instruction and with a knowledge of the art gained solely by watching jewelers. He produced the first wood engravings ever made in the United States, and for many years was the only engraver on wood in New York. He made the plates for the fractional paper currency issued by the Federal government, and for the cuts in the first editions of Webster's Spelling Book. He died 1870.

Anderson, Elizabeth Garrett, an English physician, born in London

in 1837. From 1876 to 1898 she was Dean of the London Medical School for Women.

Anderson, Martin Brewer, an American educator, born in Brunswick, Me., Feb. 12, 1815; was chosen President of the newly organized University of Rochester (N. Y.), in 1853, holding the post till 1888. He died Feb. 26, 1890.

Anderson, Mary (Mrs. Navarro), an American actress, born in Sacramento, Cal., July 28, 1859. She played for the first time in Louisville, in 1875, in the character of Juliet. Her success was marked and immediate, and during the following years she played with increasing popularity in the principal cities of the United States in various rôles. In 1883 she appeared at the Lyceum Theater, in London, and speedily became well known in England. Since her marriage in 1890 to Antonio Navarro de Viana, of New York, she has retired from the stage, but it was stated in September, 1903, that she would probably consent to give theatrical readings in the United States.

Anderson, Rasmus Bjorn, an American author, born in Albion, Wis., Jan. 12, 1846, of Norwegian parents. He was educated at Norwegian Lutheran College, Decorah, Ia.; becoming Professor of Scandinavian Languages in the University of Wisconsin in 1875–1884, and United States Minister to Denmark in 1885.

Anderson, Robert, an American military officer; born near Louisville, Ky., June 14, 1805; was graduated at the United States Military Academy in 1825, and entered the artillery; was private secretary to the United States minister to Colombia in 1825–1826; instructor at the Military Academy for a while; on ordnance duty in 1828–1835; served in the Black Hawk War in 1832 as colonel of volunteers, taking part in the battle of Bad Axe; and in the Florida War in 1837–1838 on General Scott's staff, and was made assistant adjutant-general on the staff in May of the latter year. He was with General Scott in his campaign in Mexico, taking part in the engagements at Vera Cruz, Cerro Gordo, Amozoque, and at Molino del Rey, where he was severely wounded. He was commissioned major and was placed in command of Charleston harbor, to succeed Colonel Gardiner, with headquarters at Fort Moultrie, in 1860. After arriving at Fourt Moultrie he informed the government of the weakness of the forts in the harbor, and urged the necessity of immediately strengthening them. As the government did not respond, and he was left to his own resources, he began to strengthen Castle Pinckney and Fort Moultrie. Fearing that Fort Moultrie would be attacked at any moment he applied to the government for instructions. Receiving none he decided to remove with his garrison to Fort Sumter. This he did on the evening of Dec. 26. The Confederates were much surprised the next day on discovering the change, and asked him to explain his conduct in acting without orders, to which he replied that he did it to save the government works. He was attacked and surrendered the fort after a heavy bombardment, April 12–13, 1861. In 1861 he was promoted Brigadier-General, U. S. A., and placed in command of the Department of Kentucky and of the Cumberland, but failing health caused him to retire from active service in 1863, when he was brevetted Major-General. He died in Nice, France, Oct. 26, 1871.

Anderson, Rufus, an American missionary, born in North Yarmouth, Me., Aug. 17, 1796; was graduated at Bowdoin College in 1818, and Andover Theological Seminary in 1822; Assistant Secretary of the American Board of Commissioners for Foreign Missions in 1824–1858; a founder of Mount Holyoke Seminary. He died in Boston, May 30, 1880.

Andersonville, a village in Georgia, noted as having been the seat of a Confederate States military prison. Between Feb. 15, 1864, and April, 1865, 49,485 prisoners were received, of whom 12,926 died in that time of various diseases. What was formerly a hamlet is now a town adorned with gravel walks and trees, and containing several churches. The cemetery is laid out in a neat fashion with tablets that mark the burial places of the dead. The long trenches where the soldiers were buried have since been laid out as a National cemetery, for the bodies of Northern dead.

Andersson, Carl Jan, an African traveler; born in the province of Wermland, Sweden, in 1827. He died in the land of the Ovampos, in Western Africa, in July, 1867.

Andes, The, or, as they are called by the Spanish in South America, Cordilleras, a range of mountains, of such vast extent and altitude as to render them one of the most remarkable physical features of the globe. It follows the whole of the W. coast of South America, from Cape Horn to the Isthmus of Panama and the Caribbean Sea. Sometimes it is spoken of as a continuation of the Rocky mountains in North America, but there seems to be no other reason for doing this than the continuity of the two divisions of America, and the fact that both ranges lie in the W. of their respective continents. There is a sufficiently marked break between the ridges of the Isthmus of Panama and the range of the Andes of South America, and a still more distinct hiatus between the Sierras of Central America and Mexico and the Rocky mountains.

Andorra, a valley in the Eastern Pyrenees, between the French department of Ariége and the Spanish province of Lerida, part of Catalonia. It is inclosed by mountains, through which its river, the Balira, breaks to join the Segre at Urgel; and its inaccessibility naturally fits it for being the seat of the interesting little republic which here holds a kind of semi-independent position between France and Spain. Area (divided into six communes), 175 square miles. Population about 15,000.

Andover Theological Seminary, a noted Congregational institution at Andover, Mass.; founded in 1807.

Andral, Gabriel, a French physician and pathologist, born in Paris, Nov. 6, 1797. He died Feb. 13, 1876.

Andrassy, Julius Count, Hungarian statesman, born March 8, 1823. He was a conspicuous member of the Congress of Berlin in 1878; negotiated the German-Austrian alliance with Bismarck in 1879; and the same year retired from public life. He died Feb. 18, 1890.

André, John, a British military officer, born in London in 1751; entered the army in 1771; went to Canada in 1774; and was made prisoner by the Americans in 1775. After his exchange, he was rapidly promoted, and in 1780 was appointed Adjutant-General, with the rank of Major. His prospects were of the most flattering kind when the treason of Arnold led to his death. The temporary absence of Washington having been chosen by the traitor as the most proper season for carrying into effect his design of delivering to Sir Henry Clinton the fortification at West Point, then under his command, and refusing to confide to any but Major André the maps and information required by the British general, an interview became necessary, and Sept. 19, 1780, André left New York in the sloop-of-war "Vulture," and on the next day arrived at Fort Montgomery, in company with Beverly Robinson, an American residing at the lines, through whom the communications had been carried on. Furnished with passports from Arnold, Robinson and André the next day landed and were received by the traitor at the water's edge. Having arranged all the details of the proposed treason, Arnold delivered to André drafts of the works at West Point and memoranda of the forces under his command, and the latter returned to the beach in hopes of being immediately conveyed to the "Vulture." But the ferrymen, who were Americans, refused to carry him, and as Arnold would not interpose his authority, he was compelled to return by land. Unfortunately for him he persisted, against the advice of Arnold, in retaining the papers, which he concealed in his boot. Accompanied by Smith, an emissary of Arnold, and provided with a passport under his assumed name of Anderson, he set out and reached in safety a spot from which they could see the ground occupied by the English videttes. At Tarrytown he was first stopped, and then arrested, by three Americans. André offered them his money, horse, and a large reward, but without avail. They examined his person, and, in his boots, found the fatal papers. He was then conveyed to Colonel Jameson, commander of the American outposts. On the arrival of Washington, Andre was conveyed to Tappan and tried by

a board of general officers, among whom were General Greene, the president, Lafayette, and Knox. Every effort was made by Sir Henry Clinton to save him, and there was a strong disposition on the American side to do so. His execution, originally appointed for Sept. 30, did not take place till Oct. 2. If possession could have been obtained of the traitor, the life of André would have been spared. His remains, which were buried on the spot, were afterward removed to London, and now repose in Westminster Abbey.

André, Louis Joseph Nicolas, a French military officer, born in Nuits, Burgundy, March 29, 1838. He was graduated at the Polytechnic School, and in 1865 became captain, serving in that capacity throughout the Franco-Prussian War of 1870–1871. He became Major in 1877, Lieutenant-Colonel in 1885, and Colonel in 1888. He was made General of Brigade in 1893, and placed in charge of the Polytechnic School. He married, in 1875, Mlle. Chapuis, a talented singer of the Opera Comique. On May 29, 1900, he was appointed Minister of War by President Loubet, succeeding General the Marquis de Gallifet , who held the office during the exciting period of the Dreyfus revision.

Andreä, Jakob, a German Protestant theologian, born in Würtemberg, March 25, 1528; died in Tubingen, Jan. 7, 1590.

Andreä, Johann Valentin, a very original thinker and writer, born in 1586, near Tübingen. He studied at Tübingen, became a Protestant pastor, and died in 1654 at Stuttgart, where he was chaplain to the court. Eminently practical in mind, he was grieved to see the principles of Christianity made the subject of mere empty disputations, and devoted his whole life to correct this prevailing tendency of his age.

Andrée, Solomon Auguste, a Swedish aëronaut, born Oct. 18, 1854; educated for a civil engineer. In 1882, he took part in a Swedish meteorological expedition to Spitzbergen. In 1884 he was appointed chief engineer to the patent office, and from 1886 to 1889 he occupied a professor's chair at Stockholm. In 1892 he received from the Swedish Academy of Sciences a subvention for the purpose of undertaking scientific aërial navigation. From that time Dr. Andrée devoted himself to aërial navigation, and made his first ascent at Stockholm in the summer of 1893. In 1895 he presented to the Academy of Sciences a well-matured project for exploring the regions of the North Pole with the aid of a balloon. The estimated cost amounted to about $40,000. A national subscription was opened, which was completed in a few days, the King of Sweden contributing the sum of $8,280. With two companions, Dr. S. T. Strindberg and Herr Fraenckell, he started from Dane's island, Spitzbergen, July 11, 1897. His balloon was 67¼ feet in diameter, with a capacity of 170,000 cubic feet. Its speed was estimated at from 12 to 15 miles an hour, at which rate the Pole should have been reached in six days, provided a favorable and constant wind had been blowing. Two days after his departure, a message was received from Dr. Andrée by carrier pigeon, which stated that at noon, July 13, they were in latitude 82.2°, and longitude 15.5° E., and making good progress to the E., 10° southerly. This was the last word received from the explorer.

Andrew, the first disciple, one of the apostles of Jesus. His career after the Master's death is unknown. Tradition tells us that, after preaching the gospel in Scythia, Northern Greece, and Epirus, he suffered martyrdom on the cross at Patræ, in Achaia, 62 or 70 A. D.

Andrew I., King of Hungary, in 1046–1049; compelled his subjects to embrace Christianity; he was killed in battle in 1058.

Andrew, John Albion, war govenor of Massachusetts. Was born at Windham in 1818, died 1867. His "Letters and Life" was published in 1904.

Andrews, Christopher Columbus, an American diplomat and writer, born at Hillsboro, N. H., Oct. 27, 1829; was brevetted Major-General in the Civil War; United States Minister to Sweden from 1869 to 1877, and Consul-General to Brazil from 1882 to 1885.

Andrews, Elisha Benjamin, an American educator, born in Hinsdale,

N. H., Jan. 10, 1844; he was graduated at Brown University, 1870, and Newton Theological Seminary, 1874; President of Brown University in 1889–1898; became Superintendent of Public Schools in Chicago in 1898, and Chancellor of the University of Nebraska in 1900; resigned in 1908.

Andrews, Ethan Allen, an American educator and lexicographer, born at New Britain, Conn., April 7, 1787. He died in 1858.

Andrews, Jane, an American juvenile story writer, born in Massachusetts in 1833. She died in 1887.

Andrews, John N., an American military officer, born in Delaware, in 1838; was graduated at West Point in 1860; served with distinction through the Civil War; commissioned Colonel of the 12th United States infantry in 1895; and appointed a Brigadier-General of Volunteers for the war against Spain in 1898.

Andrews, Lorrin, an American missionary, born in East Windsor, Conn., April 29, 1795; was educated at Jefferson College and Princeton Theological Seminary, and went as a missionary to the Hawaiian Islands in 1827. He founded, in 1831, the Lahainaluna Seminary, which later became the Hawaii University, where he served 10 years as a professor. He translated a part of the Bible into the Hawaiian language. In 1845 he became a judge under the Hawaiian Government and Secretary of the Privy Council. He produced several works on the literature and antiquities of Hawaii, and a Hawaiian dictionary. He died in 1868.

Andrews, Stephen Pearl, an American writer, born at Templeton, Mass., March 22, 1812; was a prominent abolitionist, practiced law in the South, and settled in New York in 1847. He died at New York, May 21, 1886.

Andromache, a daughter of Ætion, King of Thebes in Cilicia, and wife of Hector. After the conquest of Troy she became the prize of Pyrrhus, son of Achilles, who carried her to Epirus and had three sons by her, but afterward left her to Helenus, brother of Hector, to whom she bore a son. Euripides has made her the chief character of a tragedy.

Andromeda, in classical mythology a daughter of Sepheus, King of Ethiopia and Cassiope. It was fabled that she was chained to a rock by order of Jupiter Ammon, and then exposed to the attacks of a monster. Perseus released, and afterward married her. On her death she was changed into the constellation which bears her name.

In astronomy, a constellation, fancifully supposed to resemble a woman chained.

Andros Islands, a group of islands belonging to the Bahamas.

Andros, Sir Edmund, an English provincial governor, born in 1637; was governor of New York in 1674–1682, and of New England, with New York included, in 1686–1689. His harsh execution of the orders of the Duke of York caused him to be generally execrated, and, after his attempt to deprive Connecticut of its royal charter, he was seized by the people of Boston and sent to England under charges. He was also Governor of Virginia in 1692–1698, and of the Island of Jersey in 1704–1706. He died in 1714.

Anemometer, an instrument designed to measure the velocity of the wind, on which its strength depends.

Anemone, a genus of plants belonging to the crowfoots.

In zoölogy, it is a popular name given to various radiated animals which present a superficial resemblance to the anemone.

Anemoscope, an instrument for rendering visible the direction of the wind. In that commonly used there is a vane exposed to the wind acting upon an index moving round a dial-plate on which the 32 points of the compass are engraved.

Aneroid, not containing any liquid; used chiefly in the expression, "aneroid barometer."

Aneurism, a morbid dilation of the aorta, or one of the other great arteries of the body.

Angel, a messenger, one employed to carry a message, a locum tenens, a man of business.

In a special sense an angel is one of an order of spiritual beings superior to man in power and intelligence, vast in number, holy in character, and thoroughly devoted to the worship and ser-

vice of God, who employs them as his heavenly messengers. Their existence is made known to us by Scripture, and is recognized also in the Parsee sacred books.

Angel Fish, a fish of the shark family, the reverse of angelic in its look, but which derived its name from the fact that its extended pectoral fins present the appearance of wings. It is called also monk-fish, fiddle-fish, shark-ray, and kingston.

Angelica, a genus of plants mostly herbaceous and perennial, natives of the temperate and colder regions of the northern hemisphere. Wild angelica (A. sylvestris) is a common plant in moist meadows, by the sides of brooks, and in woods. The garden angelica is a biennial plant, becoming perennial when not allowed to ripen its seeds.

Angelico, Fra, the commonest designation of the great friar-painter — in full, "Il beato Fra Giovanni Angelico da Fiesole," "the blessed Brother John the angelic of Fiesole." Born in 1387 at Vicchio, in the Tuscan province of Mugello, in 1407, he entered the Dominican monastery at Fiesole, in 1436 he was transferred to Florence, and in 1445 was summoned by the Pope to Rome, where thenceforward he chiefly resided till his death in 1455.

Angell, George Thorndike, an American reformer, born in 1820. He was graduated at Dartmouth, 1846, and admitted to the bar, 1851. He was active in promoting measures for the prevention of crime, cruelties, and the adulteration of food, and founded the American Humane Educational Society. He died in 1909.

Angell, James Burrill, an American educator and diplomatist, born in Scituate, R. I., Jan. 7, 1827; was graduated from Brown University in 1850. He assumed the presidency of the University of Vermont in 1866, and that of the University of Michigan in 1871. He was Minister to China, 1880–1881, and to Turkey, 1897–1898. In 1900–10 he resumed the presidency of the University of Michigan.

Angell, Joseph Kinnicut, an American lawyer, born in Providence, R. I., in 1794; best known for his works on "Treatise on the Right of Property in Tide-Waters," and "The Limitation of Actions at Law and in Equity and Admiralty." He died in 1857.

Angelo (Michelangelo). See MICHELANGELO BUONAROTTI.

Angelus, The, a painting by J. F. Millet. It represents two French peasants who have stopped their work in the field to listen to the Angelus bell, and to pray. The American Art Association bought the picture in 1899 for about 580,000 francs, exhibited it about the country and sold it in 1890 for $150,000.

Angelus, in the Roman Catholic Church, a short form of prayer in honor of the incarnation, consisting mainly of versicles and responses.

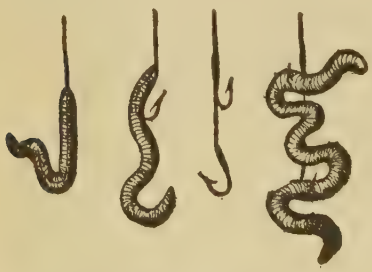
Angina Pectoris, the name first given by Dr. Heberden in 1768, and since then universally adopted as the designation of a very painful disease, called by him also a disorder of the breast; by some others, spasm of the chest, or heart stroke, and popularly breast pang. It is characterized by intense pain in the præcordial region, attended by a feeling of suffocation and a fearful sense of impending death. These symptoms may continue for a few minutes, half an hour, or even an hour or more. During the paroxysm the pulse is low, with the body cold, and often covered with clammy perspiration. Death does not often result from the first seizure, but the malady tends to return at more or less remote intervals, generally proving fatal at last. There are several varieties of it: an organic and functional form; and again a pure or idiopathic and a complex or sympathetic one have been recognized. Angina is produced by disease of the heart. It especially attacks elderly persons of plethoric habits, men oftener than women, generally coming on when they are walking, and yet more, if they are running up stairs or exerting great effort on ascending a hill. Stimulants should be administered during the continuance of a paroxysm; but it requires a radical improvement of the general health to produce a permanent effect on the disorder.

Angle, the point where two lines meet, or the meeting of two lines in a point. Technically, the inclination of two lines to one another.

Angler Fish, a fish called also sea devil, frog, or frog fish. It has an enormous head, on which are placed two elongated appendages or filaments, the first of them broad and flattened at the end. These, being movable, are maneuvered as if they were bait; and when small fishes approach to examine them, the angler, hidden amid mud and sand, which it has stirred up by means of its pectoral and ventral fins, seizes them at once; hence its name.

Angles, a German tribe who appear to have originally dwelt on the E. side of the Elbe between the mouth of the Saale and Ohre, and to have removed N. from their old abodes to the modern Schleswig, where they dwelt between the Jutes and Saxons. In the 5th century they joined their powerful N. neighbors, the Saxons, and took part in the conquest of Britain, which from them derived its future name of England.

Anglesey, or **Anglesea,** an island and county of England, in North Wales, in the Irish Sea, separated from the mainland by the Menai Strait. It is about 20 miles long and 17 miles broad. The Menai Strait is crossed by a magnificent suspension bridge, 580 feet between the piers and 100 feet above high-water mark, allowing the largest vessels which navigate the strait to sail under it; and also by the great Britannia tubular bridge, for the conveyance of railway trains, Holyhead being the point of departure for the Irish mails.



HOOKS BAITED WITH WORMS.

Anglican Church, The, means collectively that group of autonomous churches which are in communion with, or have sprung from, the mother Church of England. They are the following: The Church of Ireland, the Episcopal Church of Scotland, the Protestant Episcopal Church of the United States of America, the Church of Canada, the Church of Australia, the Indian Church, and the Church of South Africa, which are all autonomous bodies under the jurisdiction of their own metropolitans, and not amenable to the ecclesiastical courts of the Church of England, though they all look to the Archbishop of Canterbury as patriarch. In addition to these autonomous churches in connection with the Anglican communion, there are 12 missionary bishops, representing the English church in various remote regions of Asia, Africa, and America; and three or four representing the Protestant Episcopal Church of America. The Reformed Episcopal Church of America and the Free Church of England are not recognized as authentic branches of the Anglican Church. The American Church, legally the Protestant Episcopal Church, possesses 84 bishops in 58 dioceses and 21 missionary jurisdictions, and 4,776 other clergy. It has 680,205 communicants, and property exceeding $90,000,000 in value.

ARTIFICIAL FLIES.

Angling, the art of catching fish with a hook, or angle (Anglo-Saxon, ongel), baited with worms, small fish,

flies, etc. We find occasional allusions to this pursuit among the Greek and Latin classical writers; it is mentioned several times in the Old Testament, and it was practiced by the ancient Egyptians. The oldest work on the subject in English is the "Treatyse of Fyshinge with an Angle," printed by Wynkyn de Worde in 1496, along with treaties on hunting and hawking, the whole being ascribed to Dame Juliana Berners, or Barnes, prioress of a nunnery near St. Alban. Walton's inimitable discourse on angling was first printed in 1653.

Anglo-American Commission, a joint international commission appointed in 1898, by the United States and Great Britain, to negotiate a plan for the settlement of all controversial matters between the United States and Canada. This commission settled the Alaskan boundary.

Anglo-French Treaty, a diplomatic agreement between England and France, signed April 8, 1904. By this treaty, France gave up her claims to certain sovereign rights on the Newfoundland shore; the rights and privileges of the two nations in Egypt, Morocco, and Africa generally, are set forth, and the position of France in Siam, Madagascar, etc., defined.

Anglo-Japanese Alliance, a protective agreement for the mutual defense of interests in eastern Asia and India, effected by treaties in 1902 and 1905, between Great Britain and Japan.

Anglo-Saxons, the name used, with doubtful propriety, by modern historians to include the Angles, Saxons, and Jutes, who settled in Britain in the 5th and 6th centuries after Christ, and thus became the ancestors of the English people. These tribes came from Germany, where they inhabited the parts about the mouths of the Elbe and Weser, and the first body of them who gained a footing in England are said to have landed in 449, and to have been led by Hengist and Horsa. The Jutes settled chiefly in Kent, the Saxons in the S. and middle of the country, and the Angles in the N. Among the various Anglo-Saxon States that afterwards arose those founded by the Angles first gained the preponderance, and the whole country came in time to be called after them Engla-land, that is, the land of the Angles.

Angora Cat, Goat, etc., a variety of these common animals, generally supposed to have originated in Angora. They are characterized by the length and silkiness of the hair, which makes the goat a valuable animal to raise. In America, each generation of the goat has a poorer fleece, the excellent quality being retained only by frequent crossings with the original stock.

Angostura Bark, the aromatic bitter medicinal bark obtained chiefly from Galipea officinalis, a tree of 10 to 20 feet high, growing in the northern regions of South America; natural order rutaceæ. The bark is valuable as a tonic and febrifuge, and is also used for a kind of bitters.

Angoulême, Louis Antoine de Bourbon, Duc d', the eldest son of Charles X. of France, and Dauphin during his father's reign, born at Versailles Aug. 6, 1775. On the revolution in July, 1830, he signed, with his father, an abdication in favor of his nephew, the Duc de Bordeaux; and when the Chambers declared the family of Charles X. to have forfeited the throne, he accompanied him into exile, to Holyrood, to Prague, and to Gorz. He died, 1844.

Anhalt, a duchy of North Germany, lying partly in the plains of the Middle Elbe, and partly in the valleys and uplands of the Lower Harz, and almost entirely surrounded by Prussia; area, 906 square miles. The united principality is now incorporated in the German Empire, and has one vote in the Bundesrath and two in the Reichstag. Pop. (1900) 316,085. The chief towns are Dessau, Bernburg, Köthen, and Zerbst.

Ani, the name given to a division of the Cuculidæ, or cuckoos; the typical anis are found in South America, the West Indies and Florida. They are about the size of our blackbird.

Anichini, Ludwig, a Venetian engraver of great celebrity. On seeing his pieces, Michael Angelo is said to have exclaimed that the art of engraving had reached perfection.

Aniline, an organic substance used as the basis of brilliant and durable dyes. It is found in small quantities in coal-tar, but the aniline of com-

merce is obtained from benzene or benzole, a constituent of coal-tar, consisting of hydrogen and carbon. It is a colorless oily liquid somewhat heavier than water, with a peculiar vinous smell, and a burning taste. Its name is derived from anil, the Portuguese and Spanish name for indigo, from the dry distillation of which substance it was first obtained by the chemist Unverdorben in 1826. The manufacture of aniline or coal-tar dyes as a branch of industry was introduced in 1856 by Mr. Perkin of London.

Animal, an organized and sentient living being. Life in the earlier periods of natural history was attributed almost exclusively to animals. With the progress of science, however, it was extended to plants. In the case of the higher animals and plants there is no difficulty in assigning the individual to one of the two great kingdoms of organic nature, but in their lowest manifestations, the vegetable and animal kingdoms are brought into such immediate contact that it becomes almost impossible to assign them precise limits, and to say with certainty where the one begins and the other ends. From form no absolute distinction can be fixed between animals and plants. Many animals, such as the sea-shrub, sea-mats, etc., so resemble plants in external appearance that they were, and even yet popularly are, looked upon as such.

Animal Chemistry, the department of organic chemistry which investigates the composition of the fluids and the solids of animals, and the chemical action that takes place in animal bodies.

Animal Magnetism. (See Hypnotism).

Anise, an umbelliferous plant, cultivated in Malta and Spain for the sake of its aromatic and carminative seeds which form a profitable article of export and commerce. Its scent tends to neutralize other smells.

Anjou or **Beague, Battle of,** between the English and French; the latter commanded by the Dauphin of France March 22, 1421. The English were defeated; the Duke of Clarence was slain by Sir Allan Swinton, a Scotch knight, and 1,500 men perished on the field; the Earls of Somerset, Dorset and Huntingdon were taken prisoners. This was the first battle that turned the tide of success against the English.

Anna Comnena, daughter of Alexius Comnenus I., Byzantine emperor. She was born 1083, and died 1148. After her father's death she endeavored to secure the succession to her husband, Nicephorus Briennius, but was baffled by his want of energy and ambition. She wrote (in Greek) a life of her father Alexius, which, in the midst of much fulsome panegyric, contains some valuable and interesting information. She forms a character in Scott's "Count Robert of Paris."

Anna Ivanovna, Empress of Russia; born in 1693; the daughter of Ivan, the elder half-brother of Peter the Great. Anna died in 1740.

Annals, a history of events in chronological order, each event being recorded under the year in which it occurred. The name is derived from the first records of the Romans, which were called annales pontificum as drawn up by the pontifex maximus (chief pontiff). The name was applied in later times to historical works in which the matter was treated with special reference to chronological arrangement as to the Annals of Tacitus.

Annapolis, the capital of Maryland, on the Severn, near its mouth, about two miles from Chesapeake Bay. It contains a college (St. John's), a state-house, and the United States naval academy. It has a fine harbor, and is the seat of an extensive oyster industry. Pop. (1910) 8,690.

Annapolis Convention, a convention that met in Annapolis, Md., Sept. 11, 1786, to consider changes in the Articles of Confederation, but effected nothing.

Ann Arbor, city and capital of Washtenaw county, Mich.; on the Huron river; 38 miles W. of Detroit; manufactures farm implements, woolen goods, furniture, carriages, and organs; and is the seat of the State University. Pop. (1910) 14,817.

Annato, or **Arnotto,** an orange-red coloring matter, obtained from a shrub cultivated in Guiana, St. Domingo, and the East Indies. It is sometimes used as a dye for silk and cotton goods, and is much used in

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EADLY COMBAT

medicine for tinting plasters and ointments, and for giving a rich color to cheese and butter.

Anne of Austria, daughter of Philip III. of Spain, was born at Madrid in 1602, and in 1615 was married to Louis XIII. of France. Richelieu, fearing the influence of her foreign connections did everything he could to humble her. In 1643 her husband died, and she was left regent, but placed under the control of a council. But the parliament overthrew this arrangement, and intrusted her with full sovereign rights during the minority of her son, Louis XIV. She, however, brought upon herself the hatred of the nobles by her boundless confidence in Cardinal Mazarin, and was forced to flee from Paris during the wars of the Fronde. She ultimately quelled all opposition, and was able, in 1661, to transmit to her son, unimpaired, the royal authority. She spent the remainder of her life in retirement, and died Jan. 20, 1666.

Anne, Queen of Great Britain and Ireland, was born at Twickenham, near London, Feb. 6, 1664; the second daughter of James II., then Duke of York, and Anne, his wife, daughter of the Earl of Clarendon. She was educated according to the principles of the English Church. In 1683 she was married to Prince George, brother to King Christian V. of Denmark. On the arrival of the Prince of Orange in 1688, Anne wished to remain with her father; but she was prevailed upon by Lord Churchill (afterward Duke of Marlborough) and his wife to join the triumphant party. After the death of William III., in 1702, she ascended the English throne. Her character was essentially weak, and she was governed first by Marlborough and his wife, and afterward by Mrs. Masham. Most of the principal events of her reign are connected with the War of the Spanish Succession. The only important acquisition that England made by it was Gibraltar, which was captured in 1704. Another very important event of this reign was the union of England and Scotland, under the name of Great Britain, which was accomplished in 1707. She died, July 20, 1714. The reign of Anne was distinguished not only by the brilliant successes of the British arms, but also on account of the number of admirable and excellent writers who flourished at this time, among them Pope, Swift, and Addison.

Annealing, a process to which many articles of metal and glass are subjected after making, in order to render them more tenacious, and which consists in heating them and allowing them to cool slowly

Annelida, a class of animals belonging to the sub-kingdom articulata, the annulosa of some naturalists. They are sometimes called red blooded worms, being the only invertebrated animals possessing this character.

Annexation, a national acquisition of territory. The term is properly used when adjoining territory is annexed, but in a loose way it is applied to the extension of a nation's sovereignty over any land.

Annihilationism, the theory of the utter extinction of man's being, both bodily and spiritual, either at death or at some later period. Archbishop Whately says that in the passages in Scripture in which 'death,' 'destruction,' 'eternal death,' are mentioned, the words may be taken as signifying literal death, real destruction, the utter end of things. Of late those who hold to this theory have adopted the term 'conditional immortality.'

Anniston, city and county seat of Calhoun Co., Ala. The city is the centre of a region of coal, iron, and timber, and the seat of a large cotton trade. Pop. (1910) 12,794.

Anniversaries, the yearly recurrence of the date upon which any past event, of historical or personal interest, has taken place. A number of anniversaries of interest to Americans are included in the following:

Jan. 1, 1863, Emancipation Proclamation, by Lincoln.

Jan. 8, 1815, Battle of New Orleans.

Jan. 17, 1706, Franklin born.

Jan. 17, 1781, Battle of the Cowpens, S. C.

Jan 19, 1807, Robert E. Lee born.

Jan. 27, 1859, German Emperor born.

Feb. 12, 1809, Abraham Lincoln born.

Feb. 15, 1898, battleship "Maine" blown up.

Feb. 22, 1732, George Washington born.
Feb. 22-23, 1847, Battle of Buena Vista.
March 5, 1770, Boston massacre.
March 15, 1767, Andrew Jackson born.
April 9, 1865, Lee surrendered at Appomattox.
April 12, 1861, Fort Sumter fired upon.
April 12, 1777, Henry Clay born.
April 13, 1743, Thomas Jefferson born.
April 14, 1865, Lincoln assassinated.
April 19, 1881, Primrose Day in England, Lord Beaconsfield died.
April 19, 1775, Battle of Lexington and Concord.
April 30, 1789, Washington was inaugurated first President.
May 1, 1898, Dewey destroyed the Spanish fleet at Manila.
May 13, 1607, first English settlement in America, at Jamestown.
May 13, 1783, the Society of the Cincinnati was organized by officers of the Revolutionary army.
May 20, 1775, Mecklenburg, N. C., Declaration of Independence.
June 14, 1777, American flag adopted by Congress.
June 15, 1215, King John granted Magna Charta at Runnymede.
June 17, 1775, Battle of Bunker Hill.
June 18, 1815, Battle of Waterloo.
June 28, 1776, Battle of Fort Moultrie, Charleston, S. C.
July 1, Dominion Day in Canada.
July 1-2, 1898, general assault on Santiago de Cuba.
July 1-3, 1863, Battle of Gettysburg.
July 3, 1898, Cervera's fleet destroyed off Santiago.
July 14, 1789, the Bastile was destroyed.
July 16, 1898, Santiago surrendered.
July 21, 1861, Battle of Bull Run.
Aug. 13, 1898, Manila surrendered to the Americans.
Aug. 16, 1777, Battle of Bennington, Vt.
Sept. 8, 1781, Battle of Eutaw Springs, S. C.
Sept. 10, 1813, Battle of Lake Erie, Perry's victory.
Sept. 11, 1814, Battle of Lake Champlain, McDonough's victory.
Sept. 12, 1814, Battle of North Point, near Baltimore.
Sept. 13, 1847, Battle of Chapultepec.
Sept. 14, 1847, City of Mexico taken by United States troops.
Sept. 17, 1862, Battle of Antietam.
Sept. 19-20, 1863, Battle of Chickamauga.
Sept. 20, 1870, Italians occupied Rome.
Oct. 7, 1780, Battle of King's Mountain, N. C.
Oct. 8-11, 1871, great fire of Chicabo.
Oct. 12, 1492, Columbus discovered America.
Oct. 17, 1777, Burgoyne surrendered at Saratoga.
Oct. 19, 1781, Cornwallis surrendered at Yorktown.
Nov. 5, 1604, Guy Fawkes Day in England, the gunpowder plot discovered.
Nov. 9, 1872, great fire of Boston.
Nov. 25, 1783, British evacuated New York.
Dec. 14, 1799, Washington died.
Dec. 16, 1773, Boston "Tea Party."
Dec. 22, 1620, Mayflower pilgrims landed at Plymouth Rock.
Dec. 25-26, 1776, Battle of Trenton, N. J.

Anno Domini, A. D., the year of Our Lord, in Latin. The Christian era began Jan. 1, in the middle of the fourth year of the 194th Olympiad, the 753rd year of the building of Rome, and in 4714 of the Julian period. This era was invented by a monk, Dionysius Exiguus, about 532. It was introduced into Italy in the 6th century, and ordered to be used by bishops by the Council of Chelsea, in 816, but was not generally employed for several centuries. Charles III. of Germany was the first who added "in the year of our Lord" to his reign, in 879.

Annuity, a fixed sum of money paid yearly. In the United States the granting of annuities is conducted by private companies or corporations. The purchase of annuities, as a system, has never gained much foothold —the endowment plan of life insurance, by which, after the lapse of a term of years, the insured receives a sum in bulk, being preferred.

Annunciation, the declaration of the angel Gabriel to the Virgin

Mary informing her that she was to become the mother of our Lord. Annunciation or Lady Day is a feast in honor of the Annunciation, celebrated on the 25th of March.

Anode, the name given by Faraday to what is called by Daniell the zincode, and by various other writers the positive pole of an electric battery; or, more precisely, the "way" or path by which the electric current passes out and enters the electrolyte on its way to the other pole.

Anodyne, a medicine which alleviates pain, though, if given in too large doses, it induces stupor.

Anointing, rubbing the body or some part of it with oil, often perfumed. From time immemorial the nations of the East have been in the habit of anointing themselves for the sake of health and beauty. In the Mosaic law a sacred character was attached to the anointing of the garments of the priests and things belonging to the ceremonial of worship. The custom of anointing still exists in the Roman Catholic Church in the ordination of priests and the confirmation of believers and the sacrament of extreme unction. The ceremony is also frequently a part of the coronation of kings.

Anomalure, a genus of rodent animals inhabitating the W. coast of Africa, resembling the flying-squirrels, but having the under surface of the tail "furnished for some distance from the roots with a series of large horny scales, which, when pressed against the trunk of a tree, may subserve the same purpose as those instruments with which a man climbs up a telegraph pole to set the wires."

Anonymous, literally "without name," applied to anything which is the work of a person whose name is unknown or who keeps his name secret. Pseudonym is a term used for an assumed name.

Anoplotherium, an extinct genus of the ungulata or hoofed quadrupeds, forming the type of a distinct family, which were in many respects intermediate between the swine and the true ruminants. These animals were pig-like in form, but possessed long tails, and had a cleft hoof, with two rudimentary toes. Some of them were as small as a guinea-pig, others as large as an ass.

Anosmia, a disease consisting in a diminution or destruction of the power of smelling, sometimes constitutional, but most frequently caused by strong and repeated stimulants, as snuff, applied to the olfactory nerves.

Anquetil-Duperron, Abraham Hyacinthe, a French orientalist, born in 1731. He died in 1805.

Anselm of Canterbury, a Christian philosopher and theologian; regarded by some as the founder of scholasticism; born in Aosta, Piedmont, between April 21, 1033, and April 21, 1034. In 1092 he went to England. In the following year he was nominated by William Rufus Archbishop of Canterbury, and was consecrated on Dec. 4, 1093. He died in Canterbury, April 21, 1109; was canonized in 1494.

Ansgar, or **Anshar,** called the Apostle of the North, was born in 801 in Picardy, and he took the monastic vows in boyhood. In the midst of many difficulties he labored as a missionary in Denmark and Sweden; dying in 864 or 865, with the reputation of having undertaken, if not the first, the most successful, attempts for the propagation of Christianity in the North.

Anson, George, Lord, a celebrated English navigator, born in 1697; entered the navy at an early age and became a commander in 1722, and captain in 1724. He was for a long time on the South Carolina station. His victory over the French admiral, Jonquiere, near Cape Finisterre in 1747, raised him to the peerage. He died in 1762.

Ansonia, a city in New Haven county, Conn.; on the Naugatuck river and the New York, New Haven & Hartford railroad; 10 miles W. of New Haven; is widely noted for its extensive manufactures of clocks, and brass, copper, and woolen goods. Pop. (1910) 15,152.

Ansted, David Thomas, an English geologist, born 1814; died 1880.

Anstey, F., pseudonym of THOMAS ANSTEY GUTHRIE, an English humorist, born in Kensington in 1856; graduated from Cambridge in 1875, was

called to the bar in 1880, and joined "Punch" staff in 1887.

Ant, the name that is commonly applied to various genera of hymenopterous or membranous-winged insects. Most of the species live in large companies or societies, composed of three sorts of individuals — males, females, and neuters. The males and females have long wings, which are not so much veined as in other insects of the same section, and are only temporary; the neuters, which are simply females with imperfectly developed organs, are smaller than the males and females, and are destitute of wings. The neuters perform all the labors of the ant-hill; they excavate the galleries, procure food, and wait upon the larvæ till they are fit to leave their cells, appearing always industrious and solicitous.

Male and female ants survive, at most, till autumn, or to the commencement of cool weather, though a very large proportion of them cease to exist long previous to that time. The neuters pass the winter in a state of torpor, and of course require no food. The zoölogical characters of the ant family, which includes the familiar ants, are found in the females being of larger size than the males; in the sexes being winged, while the neuters are wingless; and in the antennæ possessing a long basal joint.

Antacid, an alkali, or any remedy for acidity in the stomach. Dyspepsia and diarrhœa are the diseases in which antacids are chiefly employed. The principal antacids in use are magnesia, lime, and their carbonates, and the carbonates of potash and soda.

Antananarivo, the capital of Madagascar, situated in the central Province of Imerina; of late years almost entirely rebuilt, its old timber houses having been replaced by buildings of sun dried brick on European models. It contains two royal palaces, immense timber structures, one of which is surrounded with a massive stone veranda with lofty corner towers. It has manufactures of metal work, cutlery, silk, etc. Pop. about 100,000. See MADAGASCAR.

Antarctic, relating to the southern pole or to the region near it. The Antarctic Circle is a circle parallel to the equator and distant from the south pole 23° 28′, marking the area within which the sun does not set when on the tropic of Capricorn. The Antarctic Circle has been arbitrarily fixed on as the limits of the Antarctic Ocean, it being the average limit of the pack-ice; but the name is often extended to embrace a much wider area. The south-polar region is much colder than the northern, temperatures of 100° having been frequently noted by the Discovery Expedition (1902-1904). The mammals in the south polar region are seals and cetaceans. Lieutenant Shackleton, in command of a British expedition, reached a point 111 m. from the South Pole in 1908, and discovered the south magnetic meridian. Captain Robert F. Scott reached a point still further, and returned to England to prepare a second expedition. Early in 1909, the Norwegian, Roald Amundsen, sailed in the Fram and was lost sight of until late in 1911. At that time he was in the Antarctic Seas, not far from the point previously reached by Capt. Scott and Sir Ernest Shackleton. Not long after, he reached the South Pole (Dec. 14, 1911) and hoisted his country's flag. It was not until March that he could communicate the news, Capt. Scott reached the Pole Jan. 18, 1912, and on returning died from exhaustion about March 17.

Ant-eater, a genus of mammalia, belonging to the order Edentata. This peculiar group of animals is exclusively found in the S. part of the American continent, where they aid in diminishing the numbers of immense hordes of ants, which desolate the country in the vicinity of their dwellings.

Antediluvian, before the flood or deluge of Noah's time; relating to what happened before the deluge. In geology the term has been applied to organisms, traces of which are found in a fossil state in formations preceding the diluvial, particularly to extinct animals such as the paleotherium, the mastodon, etc.

Antelope, the name given to the members of a large family of ruminant ungulata or hoofed mammalia, closely resembling the deer in general appearance, but essentially different in nature from the latter animals. Well

known species are the chamois (European), the gazelle, the addax, the eland, the koodoo, the gnu, the springbok, the sasin or Indian antelope, and the prongbuck of America.

Antennæ, the name given to the movable jointed organs of touch and hearing attached to the heads of insects, myriapods, etc., and commonly called horns or feelers. They present a very great variety of forms.

Antenor, a Grecian sculptor, who lived at Athens about 500 B. C.

Anthelion, a luminous ring, or rings, seen by an observer, especially in Alpine and polar regions, around the shadow of his head projected on a cloud or fog bank, or on grass covered with dew, 50 or 60 yards distant, and opposite the sun when rising or setting. It is due to the refraction of light.

Anthem, orginally a hymn sung in alternate parts; in modern use, a sacred tune or piece of music set to words taken from the Psalms or other parts of the Scriptures.

Anthemius, a Greek mathematician and architect of Lydia; designed the Church of St. Sophia at Constantinople, and is credited with the invention of the dome; died A. D. 544.

Anther, an organized body constituting part of a stamen, and generally attached to the apex of the filament.

Anthology, the name given to several collections of short poems which have come down from antiquity.

Anthon, Charles, an American classical scholar, born in New York city, Nov. 19, 1797. He was for many years Professor of Ancient Languages at Columbia College. A beautiful edition of Horace first made him famous among scholars. His best known work was an edition of Lempriere's "Classical Dictionary" (1841). He was also the editor of over 50 classical text-books. He died July 29, 1867.

Anthony, Henry Brown, an American legislator, born in 1815; was graduated at Brown University in 1833; became editor and publisher of the "Journal," in Providence, R. I.; elected Governor of Rhode Island in 1849 and 1850; United States Senator from 1859 till his death; and was elected President pro tem. of the United States Senate in 1863, 1871, and 1884. He died in 1884.

Anthony, St., the founder of monastic institutions, born near Heraclea, in Upper Egypt, A. D. 251; died 356. His day, the 17th of Jan., is a popular celebration in the Church.

Anthony's Fire, so called from him, a disease of the Middle Ages that dried up and blackened every limb it attacked, as if it were burnt.

Anthony, St., Falls of, a noted fall in the Mississippi river, now within the city limits of Minneapolis, Minn. The perpendicular fall is 17 feet, with a rapid below of 58 feet. An island divides the river into two parts. The entire descent of the stream for three-quarters of a mile is 65 feet. The falls and surrounding scenery, especially during the spring floods, are exceedingly picturesque.

Anthony, Susan Brownell, an American reformer, born in South Adams, Mass., Feb. 15, 1820; was of Quaker parentage; educated at a Friends' school in Philadelphia, and taught school in New York in 1835–1850. In 1847 she first spoke in public, taking part in the temperance movement and organizing societies. In 1852 she assisted in organizing the Woman's New York State Temperance Society; in 1854–1855 she held conventions, in each county in New York, in behalf of female suffrage. In 1857 she became a leader in the anti-slavery movement, and in 1858 advocated the coëducation of the sexes. She was influential in securing the passage by the New York Legislature, in 1860, of the act giving married women the possession of their earnings, and guardianship of their children. In 1868, with Mrs. E. C. Stanton and Parker Pillsbury, she began the publication of the "Revolutionist," a paper devoted to the emancipation of woman. In 1872 she cast ballots at the State and Congressional election in Rochester, N. Y., to test the application of the 14th and 15th Amendments of the United States Constitution. She was indicted for illegal voting, and fined, but the fine was never exacted. Her last public appearance of note was as a delegate to the International Council of Women, in London, England, in 1899. In

1900 her birthday was celebrated by an affecting popular demonstration in Washington, D. C., and she retired from the presidency of the National American Woman Suffrage Association. She died March 13, 1906.

Anthracene, a substance obtained in the distillation of coal-tar.

Anthracite, glance, or blind coal, a non-bituminous coal of a shining luster, approaching to metallic, and which burns without smoke, with a weak or no flame, and with intense heat. It is found in large quantities in the United States, chiefly in Pennsylvania.

Anthrax, a fatal disease to which cattle, horses, sheep, and other animals are subject, always associated with the presence of an extremely minute micro-organism (Bacillus anthracis) in the blood. It is also called splenic fever, and is communicable to man, appearing as carbuncle, malignant pustule, or wool-sorter's disease.

Anthropoid, resembling man; a term applied especially to the apes, which approach the human species in the following order: 1st (most remote), the gibbons; 2d, the orangs; 3d, the chimpanzee; and, 4th (nearest), the gorilla.

Anthropology, the science of man in the widest sense of the term.

Anthropometry, the measurement of the human body to discover its exact dimensions and the proportions of its parts, for comparison with its dimensions at different periods, or in different races or classes.

Anti-Christ, anyone who denies the Father and the Son; or who will not confess that Jesus Christ is come in the flesh, or who, leaving the Church, pretends to be the Christ (or Messiah), and thus becomes a rival and enemy of Jesus, the true Christ.

Anticosti, an island in the Gulf of St. Lawrence, which it divides into two channels, with lighthouses at different parts of the coast. It is about 140 miles long, and 30 miles broad in the center. Pop. (1900) 250.

Antidote, a medicine to counteract the effects of poison. For ARSENIC, use tablespoonful of "dialized iron," four doses in two hours, followed by castor oil; PHOSPHORUS, MATCHES, "ROUGH ON RATS," large amounts of gum arabic, emetics and epsom salts; CARBOLIC ACID, use epsom salts, sweet oil, white of eggs; CHLORAL, ipecac in water, 25-35 grains, hypodermic injection of 20th part of grain of strychnine, friction, warmth and artificial respiration; OPIUM, MORPHINE, empty the stomach, inhale ammonia, and give half grain permanganate of potash once an hour. Keep the patient from sleep, and give frequent doses of 30 grains tincture of belladona, to keep up circulation.

Antietam, a small river in Pennsylvania and Maryland which empties into the Potomac six miles N. of Harper's Ferry. On Sept. 17, 1862, a battle was fought on its banks near Sharpsburg, between a Federal army of 87,164 men, under General McClellan, and a Confederate army variously reported at from 40,000 to 97,000 men, under General Lee. The Federal casualties aggregated 12, 469, and the Confederate, from 12,000 to 25,-000. General Lee recrossed the Potomac on the following day, and the general consensus is that the battle was a Federal victory.

Antifebrin, a neutral chemical product derived from acetate of aniline at an elevated temperature by a dialytic action in which water is set free.

Anti-Federalists, members of a political party, in the United States, which opposed the adoption and ratification of the constitution, and failing in this, strongly favored the strict construction of that instrument. Thomas Jefferson was its leader, but he partially abandoned the principles of the party when he sanctioned the Louisiana Purchase.

Antigua, one of the British West Indies, the most important of the Leeward group; 28 miles long, 20 broad; area, 108 square miles; discovered by Columbus, 1493. Pop., including Barbuda, 36,819.

Antilles, another name for the West Indian Islands. Subdivided into Greater Antilles and Lesser Antilles.

Antigone, in Greek mythology the daughter of Œdipus and Jocasta, celebrated for her devotion to her father and to her brother Polynices, for burying whom against the decree of King Creon she suffered death.

Antimachus, a Greek epic and elegiac poet; flourished about 400 B. C.

Anti-Masonic Party, a political organization in opposition to Freemasonry. In 1828 this party polled 33,000 in New York State; in 1829, about 70,000; and in 1830, about 128,000.

Anti-Mission Baptists, a sect in the United States who also called themselves "Old School Baptists," founded about 1835. They do not believe in Sunday schools, colleges or theological seminaries, holding that the salvation of men does not depend upon human instrumentalities, but upon divine grace only.

Antimony, in chemistry, a triad metallic element, but in some less staple compounds it appears to be pentad.

Antinomianism (Greek, anti, "against," and nomos, "law"), the doctrine or opinion that Christians are freed from obligation to keep the law of God. It is generally regarded, by advocates of the doctrine of justification by faith, as a monstrous abuse and perversion of that doctrine, upon which it usually professes to be based.

Antinous, a young Bithynian whom the extravagant love of Adrian has immortalized. He drowned himself in the Nile in 122 A.D. Adrian set no bounds to his grief for his loss. He gave his name to a newly-discovered star, erected temples in his honor, called a city after him, and caused him to be adored as a god throughout the empire.

Antioch (ancient, Antiochia), capital of the Greek kings of Syria; on the Orontes; about 21 miles from the sea. It was founded by Seleucus Nicator, in 300 B. C., and was named after his father Antiochus. Famous in ancient times, and the place where the disciples of Christ were first called Christians, it is now a poor place with about 20,000 inhabitants.

Antiochus III., surnamed the Great, born B. C. 242, succeeded in B. C. 223. The Romans defeated him by sea and land, and he was finally overthrown by Scipio at Mount Sipylus, in Asia Minor, B. C. 190, and very severe terms were imposed upon him. He was killed while plundering a temple in Elymais to procure money to pay the Romans.

Antiochus IV., called Epiphanes, youngest son of the above, is chiefly remarkable for his attempt to extirpate the Jewish religion, and to establish in its place the polytheism of the Greeks. This led to the insurrection of the Maccabees, by which the Jews ultimately recovered their independence. He died B. C. 164.

Antipædobaptist, one who is opposed to the doctrine of infant baptism.

Antiparos, one of the Cyclades (islands), in the Grecian Archipelago, containing a famous stalactitic grotto or cave.

Antipater, a general and friend of Philip of Macedon, father of Alexander the Great. He died in B. C. 317, at an advanced age.

Antipater, procurator of Judea for the Romans from 47 to 43 B. C. He received the appointment from Julius Cæsar; and died from poison in the last mentioned year. He was the father of Herod the Great.

Antipathy, a special dislike exhibited by individuals to particular objects or persons, usually resulting from physical or nervous organization.

Antiperiodics, medicines which prevent or relieve the paroxysms of certain diseases which exhibit a periodic character.

Antiphlogistic, a term applied to medicines or methods of treatment that are intended to counteract inflammation, such as blood letting, purgatives, diaphoretics, etc.

Antiphony, opposition or contrariety of sound; also the alternate chanting or singing in a cathedral, or similar service by the choir, divided into two parts for the purpose, and usually sitting upon opposite sides.

Antipodes, the name given relatively to the people or places on opposite sides of the earth, so situated that a line drawn from one to the other passes through the center of the earth and forms a true diameter. The longitudes of two such places differ by 180°. The difference in their time is about 12 hours, and their seasons are reversed.

Antipope, a pontiff elected in opposition to one canonically chosen.

Antipyretics, medicines which reduce the temperature in fever.

Antipyrine, an alkaloid extensively used in medicine as an antipyretic, and possessing the valuable property of materially reducing the temperature of the body without the production of any distressing bodily symptoms. Hence, it is much resorted to in fevers, pneumonia, acute rheumatism, phthisis, and erysipelas. To produce a more rapid action the drug is often injected hypodermically.

Antiquaries, those devoted to the study of ancient times through their relics, as old places of sepulcher, remains of ancient habitations; early monuments, implements or weapons, statues, coins, medals, paintings, inscriptions, books, and manuscripts, with the view of arriving at a knowledge of the relations, modes of living, habits, and general condition of the people who created or employed them. The American Antiquarian Society was organized in 1812, and has its headquarters in Worcester, Mass.

Antique, a province of Panay, Philippine Islands, on the W. coast; area, with dependent islands, 1,340 square miles; pop. (1903) 131,245, of whom 2,921 were wild; chief native race, Visayan; is rich in minerals.

Anti-Rent Party, a party which gained some political influence in New York, and which had its origin in the refusal of tenants, who were dissatisfied with the patroon system to pay rent. The matter was settled by compromise in 1850. The patroons were early Dutch settlers who received vast tracts of land in what is now New York, on conditions which made them virtually feudal lords of the soil. The tenants rebelled against these conditions, and popular sympathy being with them, the heirs of the patroons were brought to terms by legislation inimical to the system under which they held their lands, while at the same time the rights of property were sustained.

Antiscorbutics, remedies against scurvy. Lemon juice, ripe fruit, milk, salts of potash, green vegetables, potatoes, fresh meat, and raw or lightly boiled eggs, are some of the principal antiscorbutics.

Anti-Semites, the modern opponents of the Jews in Russia, Rumania, Hungary, and Eastern Germany. In France the second trial of Capt. Alfred Dreyfus, in 1899, aroused an intense anti-Semitic feeling. The cruel massacre of Jews in Kishineff, Russia, by an anti-Semitic mob, in 1903, excited indignation throughout the civilized world.

Antisepsis, the exclusion of microbes or bacteria from wounds, etc., by the use of antiseptics or other means in order to prevent putrefaction, infection, or blood-poisoning.

Antiseptic, a substance which has the effect of counteracting the tendency to putrefaction. Garrod makes disinfectants and antiseptics the second order of his Division III. Chemical agents used for other than their medicinal properties. Antiseptics prevent chemical change by destroying the putrefactive microbes or bacteria, the chemical composition of the body still in many cases remaining the same; while disinfectants decompose and remove the infectious matter itself. Antiseptics are called also eolytics. Among them may be named carbolic acid, alcohol, sulphurous acid, chloride of sodium (common salt), etc.

Antiseptic Surgery, treatment to kill germs in accidental wounds, and surgical operations.

Antispasmodics, medicines which are used to prevent or allay spasms. In all spasmodic diseases, cold baths or sponging, sun-baths, moderate exercise, and a plain but nutritious diet should be employed; late hours, a close atmosphere, exhausting emotions, or excessive mental or bodily work should be avoided.

Antisthenes, a Greek philosopher and the founder of the school of Cynics, born at Athens about B. C. 444. He held virtue to consist in complete self denial and disregard of riches, honor, or pleasure of every kind. He himself lived as a beggar. He died in Athens at an advanced age.

Antithesis, a sharp opposition or contrast between word and word, clause and clause, sentence and sentence, or sentiment and sentiment, especially designed to impress the listener or reader.

Antitoxine, the name given to a new remedy for diphtheria. The decrease of deaths from this disease since the introduction of this remedy is remarkable, and in most large cities it is provided free to all unable to pay for the medicine.

Anti-Trade, a name given to any of the upper tropical winds which move northward or southward in the same manner as the trade-winds which blow beneath them in the opposite direction.

Antitrinitarians, all who do not receive the doctrine of the Divine Trinity, or the existence of three persons in the Godhead; especially applied to those who oppose such a doctrine on philosophical grounds, as contrasted with Unitarians, who reject the doctrine as not warranted by Scripture.

Antlers, bony outgrowths from the frontal bones of almost all the members of the deer family. Except in the reindeer, they are restricted to the males.

Ant Lion, the larva of an insect, of the order of neuroptera, remarkable for its ingenious methods of capturing ants and other insects, on which it feeds, by making pitfalls in the sand. Some species are common in North America.

Antoinette, Marie (MARIE ANTOINETTE JOSEPH JEANNE DE LORRAINE), Archduchess of Austria and Queen of France; the youngest daughter of the Emperor Francis I. and of Maria Theresa; born in Vienna, Nov. 2, 1755. She became wife of the dauphin, afterward Louis XVI. of France, and perished with him in the Revolution. Louis was executed on Jan. 21, 1793. The dauphin, their son, who afterward perished miserably in confinement, was next separated from the queen, and on Aug. 2, 1793, Marie Antoinette was transferred to the Conciergerie to be brought before the Revolutionary tribunal. The act of accusation was completed on Oct. 14. She was condemned at 4 A. M. on Oct. 16, 1793, and at 11 A. M. was led from the Conciergerie to the place of execution. She died with the firmness that became her character.

Antonelli, Giacomo, Cardinal, born 1806; was educated at the Grand Seminary of Rome, where he attracted the attention of Pope Gregory XVI., who appointed him to several important offices. On the accession of Pius IX., in 1846, Antonelli was raised to the dignity of cardinal-deacon; two years later he became president and minister of foreign affairs, and, in 1850, was appointed Secretary of State. During the sitting of the Œcumenical Council (1869–1870) he was a prominent champion of the papal interest. He strongly opposed the assumption of the united Italian crown by Victor Emmanuel. He died in 1876.

Antoninus, Wall of, a barrier erected by the Romans in Britain, across the isthmus between the Forth and the Clyde, in the reign of Antoninus Pius.

Antoninus Pius (TITUS AURELIUS FULVUS), Roman emperor, of a family originally from Nemausus (now Nimes), in Gaul; was born in Lavinium, in the neighborhood of Rome, A. D. 86. He died A. D. 161. His remains were deposited in the tomb of Hadrian. His adopted sons built a pillar to his memory, the fragments of which were found at Rome in 1705.

Antonius, Marcus (Mark Antony), Roman triumvir, born 83 B. C., was connected with the family of Cæsar by his mother. When war broke out between Cæsar and Pompey, Antony led reinforcements to Cæsar in Greece, and, in the battle of Pharsalia he commanded the left wing. He afterward returned to Rome with the appointment of master of the horse and governor of Italy (47). In B. C. 44 he became Cæsar's colleague in the consulship. In the struggle for the empire of Rome which followed the murder of Cæsar, Antony was overcome by Octavianus (afterward called Augustus), Cæsar's nephew and heir. His passion for Cleopatra, Queen of Egypt, enthralled his faculties, and made him an easy prey to his great political rival. Antony lost, in the naval battle at Actium (B. C. 31), the dominion of the world. He followed Cleopatra to Alexandria, and, on the arrival of Octavianus his fleet and cavalry deserted, and his infantry was defeated. Plutarch says that Antony commanded his slave

Eros to slay him, but the slave killed himself instead. Moved by this exhibition of heroic affection and deceived by a false report which Cleopatra had disseminated of her death, he fell upon his own sword (B. C. 30). On being told that Cleopatra was still alive, he caused himself to be carried into her presence, that he might die in her arms.

Ant Thrush, a name given to certain passerine or perching birds having resemblances to the thrushes and supposed to feed largely on ants.

Antwerp, the chief port of Belgium, and the capital of a province of the same name, on the Scheldt, about 50 miles from the open sea. It is strongly fortified, being completely surrounded on the land side by a semicircular inner line of fortifications, the defenses being completed by an outer line of forts and outworks. The cathedral, with a spire 400 feet high, is one of the largest and most beautiful specimens of Gothic architecture in Belgium. There are numerous and varied industries. Pop. 271,284. The province consists of a fertile plain 1,093 square miles in area; pop. 784,975.

Anubis, one of the deities of the ancient Egyptians, the son of Osiris by Isis.

Anura, or **Anoura,** an order of batrachians which lose the tail when they reach maturity, such as the frogs and toads.

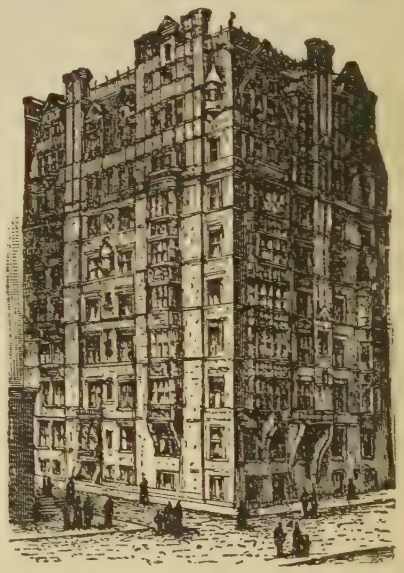
Anus, the opening at the lower or posterior extremity of the alimentary canal through which the excrement or waste products of digestion are expelled.

Aorta, the great arterial trunk, which rises from the left ventricle of the heart, and with its branches, extends throughout the whole body. The blood travels through the aorta at the rate of 300 to 500 millimetres a second.

Aoudad, a remarkable species of sheep, with certain affinities to the goats. It inhabits mountainous regions in Abyssinia and Barbary.

Apaches, a tribe of North American Indians, formerly very fierce and numerous, living in portions of Texas, New Mexico, and Arizona, and belonging to the Athabascan family. They were long the scourge of the frontiers, and resisted obstinately every attempt to civilize them. Long after the annexation of their territory by the United States they continued their raids in spite of severe defeats. An attempt made by the United States Government to confine the Apaches within a reserved territory in Arizona led to bloodshed in 1871. The number of the Apaches proper within the United States may be put at nearly 7,000.

Apartment House, a structure built to accommodate a number of families each in its own set of rooms, which form a separate dwelling with



AMERICAN APARTMENT HOUSE.

an entrance of its own. The term is chiefly used in the United States, where such dwellings are of comparatively recent introduction; but houses of this kind have long been built in Europe. In New York and other American cities there are now great blocks of such houses, which provide excellent and commodious dwellings at a lower rent than if each were a separate building.

Ape, a common name of a number of quadrumanous animals, inhabiting the Old World (Asia and the Asiatic islands, and Africa), and including a variety of species. The word ape was formerly applied indiscriminately to all quadrumanous mammals; but it is now limited to the anthropoid or man-like monkeys. The family includes the chimpanzee, gorilla, orang-outang, etc.

Apelles, the most famous of the painters of ancient Greece and of antiquity, was born in the 4th century B. C., probably at Colophon. His renown was at its height about B. C. 330, and he died about the end of the century.

Apennines, a prolongation of the Alps, forming the "backbone of Italy." On the S. slopes volcanic masses are not uncommon. Mount Vesuvius, the only active volcano on the continent of Europe, is an instance. The lower slopes are well clothed with vegetation, the summits are sterile and bare.

Apepi, in heathen mythology, the Great Serpent or Typhon, the embodiment of evil.

Aperient, a medicine which, in moderate doses, gently but completely opens the bowels; examples, castor-oil, Epsom salts, senna, etc.

Aphasia, in pathology, a symptom of certain morbid conditions of the nervous system, in which the patient loses the power of expressing ideas by means of words, or loses the appropriate use of words, the vocal organs the while remaining intact and the intelligence sound. There is sometimes an entire loss of words as connected with ideas, and sometimes only the loss of a few. In one form of the disease, called aphemia, the patient can think and write, but cannot speak; in another, called agraphia, he can think and speak, but cannot express his ideas in writing. In a great majority of cases, where post mortem examinations have been made, morbid changes have been found in the left frontal convolution of the brain.

Aphelion, that part of the orbit of the earth or any other planet in which it is at the point remotest from the sun.

Aphis, a genus of insects, the typical one of the family aphidæ. The species of aphides are very numerous, and are generaly called after the plants on which they feed.

Aphonia, in pathology, the greater or less impairment, or the complete loss of the power of emitting vocal sound.

Aphrodite, one of the chief divinities of the Greeks, the goddess of love and beauty, so called because she was sprung from the foam (aphros) of the sea. Aphrodite has had the most important place in the history of art as the Greek ideal of feminine grace and beauty.

Apia, the principal town and commercial emporium of the Samoan Islands in the South Pacific Ocean; on the N. coast of the island of Upolu, about midway between the E. and W. extremities of the island. It has a small harbor, which is usually a safe one. In 1899, during a hurricane, several United States' and German war-vessels were wrecked here, a British man-of-war alone escaping.

Apis, a bull to which divine honors were paid by the ancient Egyptians, who regarded him as a symbol of Osiris. At Memphis he had a splendid residence, containing extensive walks and courts for his entertainment, and he was waited upon by a large train of priests, who looked upon his every movement as oracular. He was not suffered to live beyond twenty-five years, being secretly killed by the priests and thrown into a sacred well. Another bull, characterized by certain marks, as a black color, a triangle of white on the forehead, a white crescent-shaped spot on the right side, &c., was selected in his place. His birthday was annually celebrated.

Apocalypse, the name frequently given to the last book of the New Testament, in the English version called the Revelation of St. John the Divine.

Apocalyptic Number, the mystic number 666 found in Rev. xiii. 18. As early as the 2d century ecclesiastical writers found that the name Antichrist was indicated by the Greek characters expressive of this number.

Apocalyptic Writings, writings such as, like the prophecies of Daniel, their prototype, set forth in a figura-

tive and pictorial manner the future progress and completion of the world's history, especially in its religious aspects. The two apocalyptic books received into the canon of Scripture are the books of Daniel and the Apocalypse especially so-called, the Revelation of St. John.

Apocrypha, in the early Christian Church, (1) books published anonymously; (2) those suitable for private rather than public reading; (3) books deemed unauthentic though purporting to be written by sacred authors; (4) dangerous books written by heretics.

Apodal Fishes, the name applied to such malacopterous fishes as want ventral fins. They constitute a small natural family, of which the common eel is an example.

Apogee, that point in the orbit of the moon or a planet where it is at its greatest distance from the earth; properly this particular part of the moon's orbit.

Apollinarians, a sect of Christians who maintained the doctrine that the Logos (the Word) holds in Christ the place of the rational soul, and consequently that God was united in him with the human body and the sensitive soul. Apollinaris, the author of this opinion, was, from A. D. 362 till at least A. D. 382, Bishop of Laodicea, in Syria.

Apollo, son of Zeus (Jupiter) and Leto (Latona). From being the god of light and purity in a physical sense he gradually became the god of moral and spiritual light and purity, the source of all intellectual, social, and political progress.

Apollodorus, a famous Athenian painter, about B. C. 408.

Apollodorus, born in Damascus, and lived in the reigns of Trajan and Hadrian. His fame as an architect caused the former to employ him in building a great stone bridge over the Danube, and other works. Apollodorus subsequently falling into disgrace with the Emperor Hadrian, was put to death by his command.

Apollonius, a Pythagorean philosopher, born at Tyana, about the beginning of the Christian era. He died at Ephesus about A. D. 97.

Apollonius of Perga, Greek mathematician, called the "Great Geometer," flourished about 240 B. C., and was the author of many works, only one of which, a treatise on "Conic Sections," partly in Greek and partly in an Arabic translation, is now extant.

Apollonius of Rhodes, a Greek poet, born in Egypt, but long residing at Rhodes, where he founded a school of rhetoric. He afterward became keeper of the famous library of Alexandria, B. C. 149.

Apollonius of Tyre, the hero of a Greek metrical romance, very popular in the Middle Ages.

Apollos, a Jew of Alexandria, who learned the doctrines of Christianity at Ephesus from Aquila and Priscilla, became a preacher of the gospel in Achaia and Corinth, and an assistant of Paul in his missionary work. Some have regarded him as the author of the Epistle to the Hebrews.

Apollyon, a name used in Rev. ix: 11 for the angel of the bottomless pit.

Apologetics, the department of theology which treats of the establishment of the evidences and defense of the doctrines of a faith. Christian apologetics, generally called simply apologetics, treats of the evidences of Christianity, and seeks to establish the truth of the Bible and the doctrines educed from it.

Apologue, a story or relation of fictitious events intended to convey some useful truths. It differs from a parable in that the latter is drawn from events that pass among mankind, whereas the apologue may be founded on supposed actions of brutes or inanimate things. Æsop's fables are good examples of apologues.

Apology, a term at one time applied to a defense of one who is accused, or of certain doctrines called in question.

Apoplexy, a serious malady, coming on so suddenly and so violently that anciently anyone affected by it was said to be attonitus (thunderstruck), or sideratus (planetstruck). When a stroke of apoplexy takes place, there is a loss of sensation, voluntary motion, and intellect or thought, while respiration and the action of the heart and general vascular system still con-

tinue. The disease now described is properly called cerebral apoplexy, the brain being the part chiefly affected.

Apostate, literally designates anyone who changes his religion, whatever may be his motive; but, by custom, the word is always used in an injurious sense, as equivalent to one who, in changing his creed, is actuated by unworthy motives.

Apostle, one who is sent off or away from; one sent on some important mission; a messenger; a mission-

The name given, in the Christian Church, to the 12 men whom Jesus selected from His disciples as the best instructed in His doctrines, and the fittest instruments for the propagation of His religion. Their names were as follows: Simon Peter, Andrew, his brother; James the greater, and John, his brother, who were sons of Zebedee; Philip of Bethsaida, Bartholomew, Thomas, Matthew; James, the son of Alpheus, commonly called James the less; Lebbeus, his brother, who was surnamed Thaddeus, and was called Judas, or Jude; Simon the Canaanite, and Judas Iscariot. Of this number, Simon Peter, John, James the greater, and Andrew were fishermen; and Matthew, a publican or tax-gatherer. When the apostles were reduced to 11 by the suicide of Judas, who had betrayed Christ, they chose Matthias by lot, on the proposition of St. Peter. Soon after, their number became 13, by the miraculous vocation of Saul, who, under the name of Paul became one of the most zealous propagators of the Christian faith.

Apostles' Islands, or **The Twelve Apostles,** a group of 27 islands in Lake Superior. They belong to Wisconsin. They were first settled in 1680 by the French.

Apostolic, or **Apostolical,** pertaining or relating to the apostles.

Apostolic Church.— The Church in the time of the apostles, constituted according to their design. The name is also given to the four churches of Rome, Alexandria, Antioch, and Jerusalem, and is claimed by the Roman Catholic Church, and occasionally by the Episcopalians.

Apostolic Constitutions and Canons. — A collection of regulations attributed to the apostles, but generally supposed to be spurious. They appeared in the 4th century; are divided into eight books, and consist of rules and precepts relating to the duty of Christians, and particularly to the ceremonies and discipline of the Church.

Apostolic Delegate.— A permanent representative of the Pope in a foreign country. It is sometimes confounded with the word ablegate, the latter meaning a temporary representative of the Pope for some special function.

Apostolic Fathers.— The Christian writers who, during any part of their lives, were contemporary with the apostles. There are five — Clement, Barnabas, Hermas, Ignatius, Polycarp.

Apostolic King.— A title granted by the Pope to the Kings of Hungary, first conferred on St. Stephen, the founder of the royal line of Hungary, on account of what he accomplished in the spread of Christianity.

Apostolic See.— The see of the Popes or Bishops of Rome; so called because the Popes profess themselves the successors of St. Peter, its founder.

Apostolic Succession.— The uninterrupted succession of bishops, and, through them, of priests and deacons (these three orders of ministers being called the apostolical orders), in the Church by regular ordination from the first apostles down to the present day. All Episcopal churches hold theoretically, and the Roman Catholic Church and many members of the English Church strictly, that such succession is essential to the officiating priest, in order that grace may be communicated through his administrations.

Apostrophe. In rhetoric, a figure of speech by which, according to Quintilian, a speaker turns from the rest of his audience to one person, and addresses him singly.

In grammar, the substitution of a mark like this (') for one or more letters omitted from a word, as tho' for though, 'twas for it was, king's for kinges.

The mark indicating such substitution, especially in the case of the possessive.

Apothecary, the name formerly given to members of an auxiliary branch of the medical profession.

In the United States, state laws generally require that apothecaries shall be duly examined and licensed.

Apotheosis, a deification; the placing of a prince or other distinguished person among the heathen deities.

Appalachian Mountains, also called **Alleghanies,** a vast mountain range in North America, extending for 1,300 miles from Cape Gaspe, on the Gulf of St. Lawrence, S. W. to Alabama. The highest peaks rise over 6,600 feet (not one at all approaching the snow level), but the mean height is about 2,500 feet. Lake Champlain is the only lake of great importance in the system, but numerous rivers of considerable size take their rise here. Magnetite, hematite, and other iron ores occur in great abundance, and the coal measures are among the most extensive in the world. Gold, silver, lead, and copper are also found, but not in paying quantities, while marble, limestone, fire clay, gypsum, and salt abound. The forests covering many of the ranges yield large quantities of valuable timber, such as sugar maple, white birch, beech, ash, oak, cherry tree, white poplar, white and yellow pine, etc., while they form the haunts of large numbers of bears, panthers, wild cats, and wolves.

Appanage, properly, lands assigned as portions to the younger sons, or sometimes the brothers of the French king, who in general took their titles from the appanages which they held.

Apparition, according to a belief held by some, a disembodied spirit manifesting itself to mortal sight; according to the common theory an illusion involuntarily generated, by means of which figures or forms, not present to the actual sense, are nevertheless depictured with a vividness and intensity sufficient to create a temporary belief of their reality. Such illusions are now generally held to result from an overexcited brain, a strong imagination, or some bodily malady.

Appeal. The distinction between an appeal, which originated in the civil law, and a writ of error, which is of common law origin, is that the former carries the whole case for review by the higher court, including both the facts and the law; while the latter removes only questions of law.

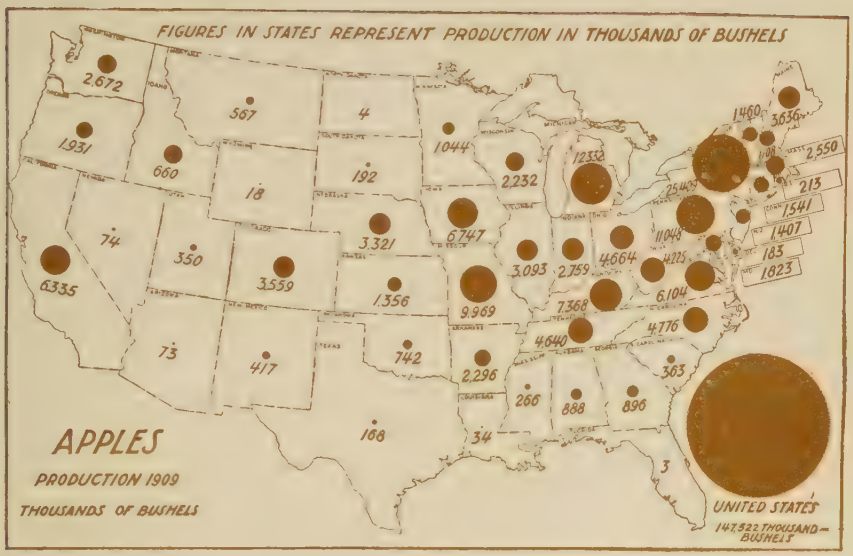
Appendicitis, a disease caused by inflammation, suppuration, and consequent gangrene in the tissue of the vermiform appendix, usually due to insufficient circulation of blood in the part itself.

Appendicitis usually occurs between the ages of 10 and 50 years. It is rare above or below those ages. It is more frequently among males than females, the exact proportion being unknown. The probable cause of this difference is of very recent discovery and is not even known generally among the medical profession. Dr. Clado, a French surgeon and investigator, sought an explanation of the comparative immunity of the female sex from the malady and discovered that the appendix in woman has an extra blood vessel (a small branch of the ovarian artery) that does not exist in man. This discovery was not only a bit of new knowledge of great value, but was an additional proof of the theory that disease of the appendix is often due in part to its want of vital resistance.

Appiani, Andrea, a painter, born at Milan in 1754. Napoleon appointed him court painter, and portraits of almost the whole of the imperial family were painted by him. He died in 1817.

Appian Way, the great Roman highway constructed by the below-mentioned Appius Claudius, from Rome to Capua, and afterward extended to Brundusium, and finished B. C. 312. It was built of stones four or five feet long, carefully joined to each other, covered with gravel, furnished with stones for mounting and descending from horseback, with milestones, and with houses at which to lodge.

Appius, Claudius Crassinus, a Roman decemvir (451 to 449 B. C.). Being passionately in love with Virginia, daughter of Virginius, a respectable plebeian absent with the army, he persuaded M. Claudius, his client, to gain possession of her, under the pretense that she was the daughter


FIGURES IN STATES REPRESENT PRODUCTION IN THOUSANDS OF BUSHELS
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1044
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3636
2.550
213
7541
1407
183
1823
25403
11048
4215
74
350
3.321
6747
3.093
2.759
4664
6335
3559
1.356
9.969
7368
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73
417
742
4640
4776
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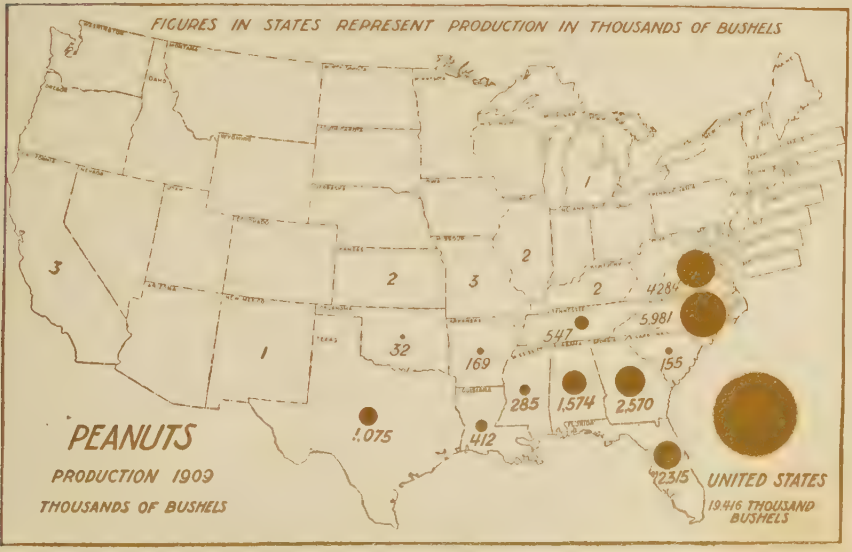
PRODUCTION 1909
THOUSANDS OF BUSHELS
UNITED STATES
147.322 THOUSAND BUSHELS


FIGURES IN STATES REPRESENT PRODUCTION IN THOUSANDS OF BUSHELS
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2
4284
5.981
547
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169
155
285
1.574
2.570
1.075
412
223.5
PEANUTS
PRODUCTION 1909
THOUSANDS OF BUSHELS
UNITED STATES
19.416 THOUSAND BUSHELS

of one of his slaves. Virginius, hurriedly recalled from the army by his friends, appeared and claimed his daughter; but, after a mock trial, she was adjudged to be the property of Marcus Claudius. To save his daughter from dishonor, the unhappy father seized a knife and slew her. The popular indignation excited by the case was headed by the senators Valerius and Horatius, who hated the decemvirate. The army returned to Rome with Virginius, who had carried the news to them, and the decemviri were deposed. Appius Claudius died in prison, by his own hand (as Livy states), or was strangled by order of the tribunes.

Apple, the fruit of the pyrus malus, a species of the genus pyrus. All the different kinds of apple trees now in cultivation are usually regarded as mere varieties of the one species which, in its wild state, is known as the crabtree. The uses of the apple for culinary and conserving processes are sufficiently well known. Cider, the fermented juice of the apple, is a favorite drink in some places of the United States.

Apple of Discord, in Greek mythology, the golden apple thrown into an assembly of the gods by the goddess of discord (Eris), bearing the inscription "For the fairest." Aphrodite (Venus), Hera (Juno), and Pallas (Minerva) became competitors for it, and its adjudication to the first by Paris so inflamed the jealousy and hatred of Hera to all of the Trojan race (to which Paris belonged) that she did not cease her machinations till Troy was destroyed.

Apple of Sodom, a fruit described by old writers as externally of fair appearance, but turning to ashes when plucked; probably the fruit of solanum sodomeum.

Appleton, city and capital of Outagamie county, Wis.; on the Fox river and railroads; 100 miles N. W. of Milwaukee; is in a farming and lumbering section; has excellent water power for manufacturing and large industrial and mercantile interests; and is the seat of Lawrence University. Pop. (1910) 16,776.

Appleton, John Howard, an American chemist, born in 1844; was graduated at Brown University in 1863; was instructor in chemistry there in 1863–1868; and in the last year became professor of that department.

Appleton, Nathan and **Samuel,** American merchants and philanthropists, brothers, born in 1779 and 1766 respectively; engaged in the manufacture of cotton goods; were founders of the city of Lowell, Mass.; and widely known for their active benevolence. Nathan set up the first power loom ever used in the United States, in his Waltham mill. Nathan died in 1861; Samuel in 1853.

Appomattox Court House, a village in Appomattox county, Va., 20 miles E. of Lynchburg. Here, on April 9, 1865, General Lee surrendered to General Grant, and thus virtually concluded the Civil War.

Apportionment Bill, a bill adopted by the United States Congress every 10 years, and directly after the completion of the Federal census, which determines the number of members that each State is entitled to send to the National House of Representatives, and provides for the necessary reorganization of the Congressional electoral districts. The apportionment based on the enumeration of 1910 was one representative to 212,407 population.

Apprenticeship, in law, a contract by which a person who understands some art, trade, or business, and called master, undertakes to teach the same to another person, commonly a minor, and called the apprentice, who, on his part, is bound to serve the master, during a definite period of time, in such art, trade, or business.

Appropriation, a specific sum set apart by the legislative power for a designated purpose. In the United States all bills for appropriating money originate in the House of Representatives; but may be amended in the Senate. The same procedure is observed in the several States.

Approximation, a term used in mathematics to signify a continual approach to a quantity required, when no process is known for arriving at it exactly. Although, by such an approximation, the exact value of a quantity

cannot be discovered, yet, in practice, it may be found sufficiently correct.

Apraxin, Feodor Mateievitch, a Russian admiral, born in 1671. He may be considered as the creator of the Russian navy, and was the most powerful and influential person at the court of Peter the Great, who made him chief-admiral. He died in 1724.

Apricot, a fruit, that of the prunus armeniaca; also the tree on which it grows. It is wild in Africa and in the Caucasus, where the mountains in many places are covered with it; it is found also in China and some other countries. It is esteemed only second to the peach.

April, the fourth month of the year.

April-fools' Day.— The first day of April, so called from the old custom of sending any one, on this day, upon a bootless errand. This strange custom of April-fools' day exists throughout Europe, and in those parts of the United States where the traditions of the mother-country prevail. One of the explanations of the custom is as follows: In the Middle Ages, scenes from Biblical history were often represented by way of diversion, without any feeling of impropriety. The scene in the life of Jesus, where He is sent from Pilate to Herod, and back again from Herod to Pilate, was represented in April, and may have given occasion to the custom of sending on fruitless errands, and other tricks practiced at this season.

APTERYX OR KIWIKIWI.

Apteryx, a genus of birds, the typical one of the family apterygidæ. Two species are known — the A. australis and A. mantelli, both from New Zealand. The natives call the former, and probably also the latter, Kiwikiwi, which is an imitation of their peculiar cry. The A. australis is somewhat less in size than an ordinary goose. It runs when pursued, shelters itself in holes, and defends itself with its long bill; but unable as it is to fly, its fate, it is to be feared, will soon be that of the dodo — it is now almost extinct.

Apulia, formerly a part of Sapygia (so called from Sapyx, son of Dædalus), including the modern Italian provinces of Capitanata, Terra di Bari, Terra d'Otranto, etc. Area 7,376 square miles; pop. (1898) 1,910,799.

Apure, a navigable river of Venezuela, formed by the junction of several streams which rise in the Andes of Colombia; it falls into the Orinoco.

Apurimac, a river of South America, which rises in the Andes of Peru; and being augmented by the Vilcamayu and other streams forms the Ucayale, one of the principal headwaters of the Amazon.

Aqua, a word much used in pharmacy and old chemistry. Aqua fortis (= strong water), a weak and impure nitric acid. It has the power of eating into steel and copper, and hence is used by engravers, etchers, etc. Aqua marina, a fine variety of beryl. Aqua regia, or aqua regalis, a mixture of nitric and hydrochloric acids, with the power of dissolving gold and other noble metals. Aqua Tofana, a poisonous fluid made about the middle of the 17th century by an Italian woman, Tofana or Toffania, who is said to have procured the death of no fewer than 600 individuals by means of it. It consisted chiefly, it is supposed, of a solution of crystallized arsenic. Aqua vitæ (= water of life), or simply aqua, a name familiarly applied to whisky, corresponding in meaning with the usquebaugh of Ireland, the eau-de-vie (brandy) of the French.

Aquamarine, a name given to some of the finest varieties of beryl of a sea-green or blue color. Varieties of topaz are also so called.

Aquarians, or **Aquarii,** Christians in the primitive Church who used water instead of wine in the Lord's Supper.

Aquarium, an artificial tank, pond, or vessel, filled with salt or fresh water, and used, in the former case chiefly for the purpose of keeping alive marine animals in circumstances which render it easy to study their habits, and in the latter for cultivating aquatic plants.

Aquarius, in astronomy (1) the 11th of the 12 ancient zodiacal constellations, now generally called signs of the Zodiac. It is generally quoted as "Aquarius, the Water bearer."

Aquatic Animals, animals living in or about water.

Aquatic Plants, plants growing in or belonging to water.

Aqueduct, an artificial channel or conduit for the conveyance of water from one place to another; more particularly applied to structures for conveying water from distant sources for the supply of large cities.

There are a number of important aqueducts in America. For 125 years, the city of Otumba, in Mexico, received its supply of water through the aqueduct of Zempoala, which, however, has not been used since 1700, though the aqueduct is said to be in almost perfect condition. It is 27 miles long. New York is supplied with water from Croton river, which falls into the Hudson above Sing Sing. The first aqueduct was constructed between the years 1837 and 1842, is 38 miles long, with a general declivity of 13¼ inches to the mile, and is 8 feet 5 inches in height, and 7 feet 8 inches in greatest breadth. Stone, brick, and cement are used for the encasing masonry. When the conduit reaches the Harlem river, the water is conveyed in iron pipes over a splendid bridge, 150 feet above the river.

An aqueduct for supplying Boston with water was first built in 1846–1848, and exactly 30 years later a new aqueduct was built from the Sudbury river to Boston, and was carried across the Charles river and Waban valley by two fine bridges. As the supply of water did not prove sufficient for the growth of the city, a large reservoir was built, taking a large part of the town of Boylston, Mass., so that it was supposed the supply of water, when the valley was filled would suffice for many years.

E. S.

Aqueous Humor, the limpid watery fluid which fills the space between the cornea and the crystalline lens.

Aqueous Rocks, mechanically formed rocks, composed of matter deposited by water. Called also sedimentary or stratified rocks.

Aquifoliaceae, a natural order of plants; the holly tribe. The species consists of trees and shrubs, and the order includes the common holly and the Paraguayan tea tree.

Aquila, a native of Pontus, celebrated for his close translation of the Hebrew Scriptures into Greek.

Aquila, Kaspar, a German Protestant theologian, born in Bavaria, Aug. 7, 1488; assisted Luther in the translation of the Old Testament; became pastor at Saalfeld in 1527; was outlawed by Charles V. in 1548; fled the country; and after 1552 returned to Saalfeld, where he died Nov. 15, 1560.

Aquinas, Thomas, or **Thomas of Aquino,** was of the family of the Counts of Aquino, and was born about 1226, in the castle of Rocca Secca, near Aquino, a small town half-way between Rome and Naples. He treated Christian morals according to an arrangement of his own, and with a comprehensiveness that procured him the title of the "Father of Moral Philosophy." He died at the Cistercian abbey of Fossa-Nuova, March 7, 1274. Aquinas was canonized by John XXII. in 1323, and proclaimed a "Doctor of the Church," by Pius V. in 1567.

Aquitania, later **Aquitaine,** a Roman province in Gaul, which comprehended the countries on the coast from the Garonne to the Pyrenees, and from the sea to Toulouse. It was brought into connection with England by the marriage of Henry II. with Eleanor, daughter of the last Duke of Aquitaine. The title to the province was for long disputed by England and France, but it was finally secured by the latter (1453).

Arabesque, a style of ornamentation in which are represented men, animals (the latter consisting of mythic as well as actual forms); plants, with leaves, flowers, and fruit; mathematical figures, etc.; the whole put together in a whimsical way, so

that, for instance, the animals not merely rest upon the plants, but grow out of them like blossoms.

ARABESQUE ARCHWAY.

Arabia, the extreme S. W. part of Asia, called by the natives Jeziret el Arab, that is, the Peninsula of the Arabs; and by the Turks and Persians, Arabistan. Arabia is encompassed on three sides by the sea, namely, on the N. E. by the Persian Gulf, on the S. E. by the Indian Ocean, and on the S. W. by the Red Sea. Arabia includes also the peninsula of Sinai, between the Gulf of Suez and that of Akabah. The whole area of the vast country thus described does not probably fall much short of 1,000,000 square miles.

The population of Arabia has been estimated by some at 12,000,000, by others at no more than 4,000,000. The former number is certainly too high, and it is believed that between 5,000,000 and 6,000,000 is very near the truth.

The Arabs present, as a nation and as individuals, much that is peculiar in their mental and physical development. They are of middle stature, of a powerful make, and have a skin of brownish color. Their features express dignity and pride; they are naturally active, intelligent, and courteous; and their character is marked by temperance, bravery, and hospitality, along with a strong propensity for poetry. On the other hand, they are revengeful in their disposition and predatory in their habits. The women have the entire education of the children in their early years.

The mode of life of the Arabs is either nomadic or settled, or in other words, they either live in tents and derive their subsistence from the rearing of cattle, wherever sufficient pasture is obtainable, and from the transport of caravans through the desert; or from the pursuits of agriculture and commerce. The nomadic tribes in Arabia are termed Bedouins, Beduins, or Bedawins; those following settled occupations, Hadji and Fellahs. A considerable trade, partly overland, partly maritime, is carried on, chiefly in coffee, dates, figs, spices, and aromatic substances of various kinds, though the present amount of traffic is scarcely a shadow of what it was in the times previous to the discovery of the passage by the Cape of Good Hope. Commerce is partly in the hands of foreigners, chiefly Jews and Banian Hindus. In 1906, Turkish troops occupied Tabah on the Gulf of Akabah. This act led to representations from the Anglo-Egyptian government, the appointment of a commission and a delimitation of boundaries.

Arabian Nights' Entertainments, or **"The Thousand and One Nights,"** a celebrated collection of Oriental tales, which have, since their introduction to the civilized world, become the delight of all who peruse them. This collection, which had long been famous throughout the East, was brought to the notice of Europeans by the translation of Antoine Galland, a great French Orientalist, in 1704. It speedily became translated into the other principal European languages, fixed popular admiration, and to this day retains its place in popular literature.

Aracari, the name given in Brazil to several scansorial birds. They have smaller bills than the toucans proper, and are of brighter colors, being generally green, with red or yellow on their breasts.

Arachnida, the class of animals which contains spiders, scorpions, and mites.

Arack, or **Arrack,** a spirituous liquor manufactured in the East Indies from a great variety of substances. It is often distilled from fermented

rice, or it may be distilled from the juice of the cocoanut and other palms.

Arafat, or **Jebel er Rahmeh,** a hill in Arabia, about 200 feet high, with stone steps reaching to the summit, 15 miles S. E. of Mecca; one of the principal objects of pilgrimage among Mohammedans, who say that it was the place where Adam first received his wife, Eve, after they had been expelled from Paradise and separated from each other 120 years. A sermon delivered on the mount constitutes the main ceremony of the Hadj or pilgrimage to Mecca, and entitles the hearer to the name and privileges of a Hadji or pilgrim.

Arago, Dominique Francois, an eminent French astronomer and physicist; born near Perpignan, Feb. 26, 1786. He died in 1853. As Minister of War and Marine after the fall of Louis Philippe he was instrumental in abolishing negro slavery in the French colonies.

Arago, Etienne Vincent, a French poet, journalist, and playwright, born at Perpignan, Feb. 9, 1802. He died in 1892.

Aragon, once a kingdom, now divided into the three provinces of Saragossa, Huesca, and Teruel, in the N. E. of Spain; greatest length from N. to S., 190 miles; breadth, 130; area, 17,980 square miles; pop. (1887) 912,197. It is bounded on the N. by the Pyrenees, and borders on Navarre, the Castiles, Valencia, and Catalonia.

Araguay, or **Araguaya,** a large river of Brazil, which rises in about 19° S. lat., near the Parana, flowing to about 6° S. lat., where it joins the Tocantins. The united stream, after a course of 1,000 miles, falls into the delta of the Amazon in S. lat. 1° 40'. Many tribes of warlike Indians dwell on its banks.

Aral Lake, separated by the plateau of Ust-Urt from the Caspian Sea, is the largest lake in the steppes of Asia. It lies wholly within the limits of Russian Central Asia, embracing an area of about 24,000 square miles.

Aram, Eugene, a self-taught scholar whose unhappy fate has been made the subject of a ballad by Hood and a romance by Lord Lytton, born in Yorkshire, England, in 1704. In 1734 he opened a school at Knaresborough. About 1745 a shoemaker of that place, Daniel Clarke, was suddenly missing under suspicious circumstances; and no light was thrown on the matter till 13 years afterward, when an expression dropped by one Richard Houseman respecting the discovery of a skeleton supposed to be Clarke's, caused him to be taken into custody. From his confession an order was issued for the apprehension of Aram, who had long quitted Yorkshire, and was at the time acting as usher at the grammar school at Lynn. He was brought to trial on Aug. 3, 1759, at York, where, notwithstanding an able and eloquent defense which he made before the court, he was convicted of the murder of Clarke, sentenced to death, and executed.

Aramæan, or **Aramaic,** a Semitic language nearly allied to the Hebrew and Phœnician, anciently spoken in Syria and Palestine and eastward to the Euphrates and Tigris, being the official language of this region under the Persian domination.

Arapahoes, a tribe of American Indians located near the head-waters of the Arkansas and Platte rivers.

Arapaima, a genus of tropical fishes, including the largest known fresh water forms. They are found in the rivers of South America, and are sometimes taken in the Rio Negro, 15 feet in length, and 400 pounds in weight. They are shot with arrows or harpooned, and are highly esteemed as food.

Ararat, a celebrated mountain in Armenia, forming the point of contact of Russia with Turkey and Persia, to all of which it belongs. It rises, an isolated cone, on the S. border of the plain of the Aras of Araxes. The summit of the Great Ararat rises 16,964 feet above the sea-level. It is covered with perpetual snow and ice for about 3 miles from its summit downward in an oblique direction. Mount Ararat was the resting place of the ark when the flood abated.

Araucania, the country of the Araucos or Araucanian Indians, in the south of Chile. The Chilean province of Arauco, lying between the Andes and the Pacific Ocean, and bounded on the N. by Concepcion, on the S. by Valdivia, was formed in

1875, with an area of 2,446 square miles, and a population of 59,227. A large part of the territory in Arauco and the more southerly province of Valdivia, is occupied by Indians, who have of late mostly submitted to Chilean authority.

Arbitration, an adjudication by private persons, called arbitrators, appointed to decide a matter or matters in controversy, either by written or oral submission, by agreement of the disputants. It differs from a reference which is made by the order of a court of law. The proceeding generally is called a submission to arbitration; the parties appointed to decide are termed arbitrators, not referees: and their adjudication is called an award. This mode of settling disputes has been approved by some legislatures, and there are statutes in a number of States regulating the proceedings.

It cannot be said that the legal requirements have helped to any great extent in the settlement of disputes bebetween labor and capital. Either or both sides claim that an injustice has been done, and while a modus vivendi may be determined, it is only that matters may be arranged for a more successful outcome of the next difficulty. The settlement of the great coal strike of 1902 by the arbitrators selected by President Roosevelt, ended the conflict for the time being, but did not satisfy either party to the dispute.

The first general treaty of arbitration ever drawn between nations was signed Jan. 11, 1897, in Washington, by Richard Olney, Secretary of State for the United States, and Sir Julian Pauncefote, Ambassador of Great Britain to the United States, for Great Britain. This treaty was placed before the United State Senate, Jan. 11, 1897 accompanied by a special message from President Cleveland, but the Senate refused to ratify it. Since then similar treaties have been made and ratified between Italy and the Argentine Republic and between the Argentine Republic and Uruguay. The International Peace Convention at The Hague, in 1899, established an International Court of Arbitration which has been ratified by the United States and other signatory powers. In 1903, Holland accepted Mr. Carnegie's offer of $1,500,000 for a Temple of Peace and International Law Library at The Hague, for the sessions of the Court.

Arbor Day, a day set apart to encourage the voluntary planting of trees by the people. The custom was inaugurated by the Nebraska State Board of Agriculture in 1874, which recommended that the second Wednesday in April annually be designated as Arbor Day, and that all public school children should be urged to observe it by setting out young trees. The custom has since been extended, till now nearly every State and Territory in the country has set apart one day by legislative enactment or otherwise, for this purpose; several of the States making the day a legal holiday, others making it a school holiday.

Arbor Vitae (lit. 'tree of life'), the name of several coniferous trees of the genus Thuja, allied to the cypress, with flattened branchlets, and small imbricated or scale-like leaves. The common Arbor Vitæ (Thuja occidentalis) is a native of North America, where it grows to the height of 40 or 50 feet. The young twigs have an agreeable balsamic smell.

Arbutus, a genus of plants belonging to the order of ericaceæ (heath worts). Trailing arbutus is a creeping or trailing plant; with rose colored blossoms, found chiefly in New England in the spring. Commonly called Mayflower. In the Southern States it is known as Ground Laurel.

Arc, in geometry, a portion of the circumference of a circle, cut off by two lines which meet or intersect it. Its magnitude is stated in degrees, minutes, and seconds, which are equal to those of the angle which it subtends.

In mathematical geography, an arc of the earth's meridian, or a meridional arc, is an arc partly measured on the surface of the earth from N. to S., partly calculated by trigonometry. It was by these measurements that the earth was discovered to be an oblate spheroid.

In electricity, a voltaic arc is a luminous arc, which extends from one pencil of charcoal to another, when these are fixed to the terminals of a battery in such a position that their extremities are one-tenth of an inch apart.

Arcade, a series of arches of any form, supported on pillars, either inclosing a space before a wall, or any building which is covered in and paved; or, when used as an architectural feature for ornamenting the towers and walls of churches entirely closed up with masonry. The cloisters of the old monasteries and religious houses were, strictly speaking, arcades. The term is also applied to a covered passage having stores on either side of it.

Arcadia, the classical name of Middle Peloponnesus, now forming the modern province of Arkadia, in the Morea, Greece.

Arcesilaus, a Greek philosopher, founder of the New Academy, was born at Pitane in Æolia, Asia Minor, 316 B. C. He died B. C. 241.

Arch, in architecture, a series of wedge-shaped stones or bricks, so arranged over a door or window in an edifice for habitation, or between the piers of a bridge, as to support each other, and even bear a great superincumbent weight. The curved arch was known to the Assyrians and the Old Egyptians.

There is no mention of the genuine arch in Scripture, the term "arches," in Ezek. xl: 16, being a mistranslation.

The arch was brought into extensive use by the Romans, and everywhere prevailed till the 12th century A. D. when the arch pointed at the apex, and called in consequence the pointed arch — the one so frequently seen in Gothic architecture — appeared in Europe as its rival. The forms of both curved and pointed arches may be varied indefinitely.

Arch, Triumphal, a structure raised by the Romans to celebrate a victory, or some great historical event; or to add an additional luster to the commemoration of the military exploits of a victorious general. The practice has been adopted by some of the modern nations of which France is the foremost.

Arch, Joseph, an English reformer, born in Barford, Warwickshire, in 1826, and, while still a farm laborer, became a Primitive Methodist preacher. In 1872 he founded the National Agricultural Laborers' Union, and thereby, according to Justin M'Carthy, "began the emancipation of the rural laborers." He afterward visited Canada to inquire into the labor and emigration questions; and, in 1885–1886, he represented in Parliament the northwest division of Norfolk, which again returned him in 1892 and 1895.

Archæology, the science which makes us acquainted with the antiquities of nations that have lived and died, and the remains of various kinds which throw a light upon the history of those now existing. Every country owns, in a greater or less degree, relics of antiquity highly interesting to the archæologist. In Mexico and Central America, evidences have been found of the existence of a clever and ingenious people who had died before the discovery of America.

Archaeopteryx, a unique fossil bird from the oolitic limestone of Solenhofen, of the size of a rook, and differing from all known birds in having two free claws representing the thumb and forefinger projecting from the wing, and about twenty tail vertebræ free and prolonged as in mammals.

Archangel, a seaport, capital of the Russian government of same name, on the right bank of the northeastern Dwina, about 20 miles above its mouth in the White Sea. Below the town the river divides into several branches and forms a number of islands, on one of which, called Sollenbole, is the harbor. The port is closed for six months by ice. Archangel, was long the only port which Russia possessed. Pop. 20,-993.

Archdeacon, an ecclesiastical dignitary next in rank below a bishop, who has jurisdiction either over a part of or over the whole diocese. He is usually appointed by the bishop, under whom he performs various duties, and he holds a court which decides cases subject to an appeal to the bishop.

Archduke, a duke whose authority and power is superior to that of other dukes. In the present day, this title is not assumed by any excepting the princes of the imperial House of Austria.

Archelaus, a Greek philosopher, the disciple and successor of Anaxagoras. Archelaus is said to have had Socrates for his pupil at Athens. Flourished about 440 B. C.

Archelaus, son of Herod the Great. His reign is described as most tyrannical and bloody. The people at length accused him before Augustus (Judea being then dependent upon Rome). The Emperor, after hearing his defense, banished him to Vienne, in Gaul. To avoid the fury of this monster, 7 A. D., Joseph and Mary retired to Nazareth.

Archer, Branch T., a Texan patriot, born 1790; died 1856. In 1831 he left Virginia where he had practiced medicine, and settled in Texas where he took an active part in all the troubles that preceeded the independence of the territory. He was one of the commissioners who asked aid from the United States government, and was speaker of the Texas House of Representatives, and Secretary of War for the new Republic.

Archer, William, a Scottish critic, born at Perth, Sept. 23, 1856. He graduated at Edinburgh University, 1876, and was called to the bar, 1883. He has long been dramatic critic for various London papers.

Archer Fish, the toxotes aculator, which shoots water at its prey. It is found in the East Indian and Polynesian Seas.

Archery, the art of shooting with a bow and arrow. This art, either as a means of offense in war, or as subsistence and amusement in time of peace, may be traced in the history of almost every nation. It always, however declines with the progress of time, which introduces weapons more to be depended on, and not so easily exhausted as a bundle of arrows. With the ancients, the sagitarii, or archers, were an important class of troops. The English archers were famous in the Middle Ages, and turned the side in important battles.

Archilochus, a Greek poet, flourished in the 7th century B. C. Of his life, nothing is definitely known. He was classed by the ancients with the greatest poets, Homer, Pindar, Sophocles; but of his works only a few fragments have come down to us.

Archimedes, the most famous of ancient mathematicians, was a native of Syracuse. He possessed equal knowledge of the sciences of astronomy, geometry, hydrostatics, mechanics, and optics. Among his inventions were the combination of pulleys for lifting heavy weights, the revolving screw, and a spherical representation of the motion of the heavenly bodies. His inventive genius was especially exemplified in the defense of Syracuse when besieged by Marcellus. It is said that on this occasion he devised a burning-glass, formed of reflecting mirrors of such power that by it he set fire to the enemy's fleet. This well known story is, however, believed to be equally an invention. Upon the city being taken by storm, Archimedes, then in his 74th year, was among those who lost their lives, B. C. 212.

Archimedes, Principle of, a well known principle in hydrostatics, the discovery of which is attributed to the celebrated philosopher whose name it bears. This important theorem may be thus defined: When a solid is immersed in a fluid, it loses a portion of its weight, and this portion is equal to the weight of the fluid which it displaces, that is, to the weight of its own bulk of the fluid.

Archimedian Screw, or Spiral Pump, a machine invented by Archimedes, the celebrated Syracusan philosopher, while studying in Egypt. Observing the difficulty of raising water from the Nile to places above the reach of the flood tides, he is said to have designed this screw as a means of overcoming the obstacle. It consists of a pipe twisted in a spiral form around a cylinder, which, when at work, is supported in an inclined position. The lower end of the pipe is immersed in water, and when the cylinder is made to revolve on its own axis, the water is raised from bend to bend in the spiral pipe until it flows out at the top. The Archimedian screw is still used in Holland for raising water, and draining low grounds.

Archipelago, a term applied to such tracts of sea as are interspersed with many islands. It is more especially applied to the numerous islands of the Ægean Sea, or that part of the Mediterranean lying between Asia Minor and Greece.

Architecture, the art of building, especially with a view to beauty or magnificence. It is an art which is ever advancing as the needs of civilized man change and increase. Some

of the architectural work of the ancients has never been surpassed in later ages in massiveness and in beauty, and the grand architectural monuments of the Middle Ages are the chief redeeming features of that period of intellectual gloom. The architecture of the twentieth century bids fair to keep abreast of the marvellous progress of other arts, and nowhere is it achieving more signal triumphs than in the United States, with its mighty office-buildings, its magnificent public structures, and its residences including every comfort and improvement.

Archives, the place in which records are kept; also the records and papers which are preserved, as evidence of facts.

Archons, the chief magistrates of ancient Athens, chosen to superintend civil and religious concerns.

Archytas, an ancient Greek mathematician, statesman, and general, who flourished about 400 B. C., and belonged to Tarentum, in Southern Italy. The invention of the analytic method in mathematics is ascribed to him, as well as the solution of many geometrical and mechanical problems.

Arc Light, that species of the electric light in which the illuminating source is the current of electricity passing between two sticks of carbon kept a short distance apart, one of them being in connection with the positive, the other with the negative terminal of a battery or dynamo.

Arcon, Jean Claude Lemiceaud d', a French engineer, born in 1733. He distinguished himself by the invention of the famous floating batteries used at the siege of Gibraltar, in 1782. He died in 1800.

Arctic Circle, a small circle of the globe, 23° 28′ distant from the North Pole, which is its center. It is opposed to the Antarctic circle, which is at the same distance from the South Pole.

Arctic Expeditions, expeditions projected to explore the regions surrounding the North Pole. The object with which these enterprises were commenced by the English was to obtain a passage by way of the polar regions to India, Egypt being in Mohammedan hands, and fear, which now seems absolutely ludicrous, being felt that the Portuguese would successfully debar daring English seamen from using the route by the Cape of Good Hope. When the utter hopelessness of finding either a northwestern or a northeastern passage to India through the polar regions became apparent, it was felt that Arctic expeditions might still profitably be sent out for purely scientific exploration, one main object now being to make as near an approach as possible to the Pole. They have continued at intervals to our own times, and are not likely ever to cease. Two of the most notable events in their history which have hitherto occurred have been the discovery of the northwest passage by Captain McClure, of the "Investigator," on Oct. 26, 1850, and the tragic deaths of Sir John Franklin and his crew, about the year 1848, the catastrophe being rendered all the more impressive to the public mind by the uncertainty which long hung over the gallant explorers' fate.

In September, 1895, Lieut. Robert E. Peary, of the United States navy, returned from an Arctic expedition, after an absence of two years. He did not get so far north as some of his predecessors, but in scientific results his expedition surpassed all others of recent years. His surveys and maps extend our knowledge of the coast northward 2°. He started on another expedition in 1897. On Aug. 13, 1896, Dr. Fridtjof Nansen, of Norway, returned from an Arctic expedition, after an absence of more than three years. The most northerly point reached by him was 86° 14′ N. latitude, or 200 miles nearer the Pole than ever reached before. He found no indications of land N. of 82° N. latitude, and in the higher latitudes no open sea, only narrow cracks in the ice.

The following are the farthest points of N. latitude reached by Arctic explorers, up to present date:

Year	Explorers	North Latitude		
1607.	Hudson	80°	23′	0″
1773.	Phipps	80°	48′	0″
1806.	Scoresby	81°	12′	42″
1827.	Parry	82°	50′	0″
1874.	Meyer (on land)	82°	0′	0″
1875.	Markham and Parr (Nares' expedition.	83°	20′	26″
1876.	Payer	83°	07′	0″

Year	Explorers	North Latitude		
1882.	Lockwood (Greely's party)	83°	24′	0″
1896.	Nansen	86°	14′	0″
1900.	Abruzzi	86°	33′	0″
1906.	Peary	87°	6′	0″
1909.	April 6. Peary	The Pole		

In 1902 Lieutenant Peary attained lat. 84° 17′, 156 miles short of Abruzzi's record, and 404 statute miles from the Pole. He pushed the advance on the American side 30 miles beyond his own best record in 1901. In 1906 he came within 200.36 miles of his goal, when he was forced back by insurmountable obstacles. The Baldwin (1902) and the Fiala (1905) expeditions, which proceeded by way of Franz Josef Land, did not reach such high latitudes. In 1909 tidings of Arctic discovery were highly sensational in character. On Sept. 1 Dr. Frederick A. Cook telegraphed that he had discovered the Pole on April 21, 1908, and five days later Peary announced that he had reached it on April 6, 1909. On their return the rival claimants were honored at home and abroad, but a scientific investigation of their records resulted in crediting the achievement to Peary. In his expedition to the Alaskan and Canadian Arctic coast, 1908-1912, V. Stefansson discovered that many Arctic maps were wrong, and for some time in 1910 lived with a tribe of blond Eskimos, uncivilized and without a knowledge of white men.

Arctic Ocean, in its widest sense, that portion of the ocean which extends from the Arctic circle (lat. 66° 32′ N.) to the North Pole, or more restrictedly from about lat. 70° N. Assuming the former limit, the Arctic Ocean is found entering deeply, in the form of gulfs, bays, etc., into the N. parts of the continents of Europe, Asia, and America. The water of the Arctic Ocean is extremely pure.

Arctic Regions, the regions round the North Pole, and extending from the pole on all sides to the Arctic circle in lat. 66° 32′ N. The Arctic or North Polar circle just touches the N. headlands of Iceland; cuts off the S. and narrowest portion of Greenland; crosses Fox Strait N. of Hudson bay, whence it goes over the American continent to Bering Strait. Thence it runs to Obdorsk at the mouth of the Obi; then, crosing Northern Russia, the White Sea, and the Scandinavian peninsula, returns to Iceland.

Arcturus, in astronomy, a fixed star of the first magnitude, called also Alpha Bootis. It is one of the very brightest stars in the northern heavens.

Ardahan, a village of about 300 houses, in the portion of Turkish Armenia, ceded in 1878 to Russia, 35 miles N. W. of Kars. Its position gives it strategic importance. Its fortress was dismantled by the Russians in the war of 1854–1856; in 1878 the Berlin Congress sanctioned the cession to Russia of Ardahan, which had been captured early in the war. On account of the severity of the climate, the houses of Ardahan are mainly constructed underground.

Ardennes, an extensive hill-country and forest, occupying the S. E. corner of Belgium, between the Moselle and the Meuse, but extending also into France and Rhenish Prussia. It consists of a broken mass of hills, for the most part of no great elevation, which gradually slope toward the plains of Flanders. Enormous supplies of coal are found in the north, a very important element in Belgium's industrial wealth; iron, lead, antimony, copper, and manganese are also found. Multitudes of cattle and sheep are reared.

Arditi, Luigi, an Italian musician and composer, born in Piedmont, July 16, 1822; studied music at the Conservatoire of Milan. Famous first as a violinist, then as a conductor, he conducted Italian opera and concerts in places as remote from one another as New York and Constantinople. He died in May, 1903.

Ardmore, city and capital of Carter county, Okla.; in what was the Chickasaw Nation, Ind. Terr.; on the Santa Fe and other railroads; 100 miles S. of Oklahoma City; is in a cotton-growing, natural gas, petroleum, coal, and asphalt section; has a Carnegie library, two colleges, water, electric light, and telephone services, and cotton compressers and oil mill; and is chiefly engaged in the cotton industry. Pop. (1910) 8,618.

Are, the unit of the French land measure, equal to 100 square meters, or 1,076.44 square feet.

Arena, the inclosed space in the central part of the Roman amphitheaters, in which took place the combats of gladiators or wild beasts. It was usually covered with sand or saw dust to prevent the gladiators from slipping, and to absorb the blood.

Arecibo, city, seaport, and capital of department of same name, Porto Rico; on the Arecibo river, 40 miles W. of San Juan; settled in 1616; greatly damaged by hurricane in 1899; has a roadstead available only by small vessels. Pop. (1910) 9,612.

Areolar Tissue, a tissue widely diffused through the body, and composed of white and yellow fibers, the former imparting to it strength, and the latter elasticity.

Areometer, an instrument designed to measure the specific gravity of liquids.

Areopagus, the name of a hill or rocky eminence lying to the W. of the Acropolis at Athens, which was the meeting-place of the chief court of judicature of that city; hence called the Council of Areopagus. It was of very high antiquity, and existed as a criminal tribunal long before the time of Solon. Solon enlarged its sphere of jurisdiction, and gave it extensive powers of a censorial and political nature. Some say that the Apostle Paul was taken before this council; but the Scripture does not bear out this idea. It would seem, rather, that the Athenians had taken him to the hill in order to hear him expound his new doctrines.

Arequipa, a city of Peru, capital of the Department of the same name; 40 miles from the Pacific Ocean, on the Chile river; altitude, 7,850 feet above sea level. Gold and silver are mined in the vicinity. A great earthquake occurred, Aug. 13 and 14, 1868, which destroyed more than $12,000,000 worth of property, and the lives of more than 500 persons. Its public buildings and dwellings are one or two stories high and constructed of stone. Near at hand Harvard University has an observatory, at an altitude of over 8,000 feet.

Ares, the Greek god of war, or more particularly of its horror and tumult. He is represented in Greek poetry as a most sanguinary divinity delighting in war for its own sake.

Aretæus, a Greek physician of Cappadocia, who flourished about 100 A. D. He is considered to rank next to Hippocrates in the skill with which he treated diseases; was eclectic in his method; and in the diagnosis of disease is superior to most of the ancient physicians.

Aretino, Pietro, an Italian poet and dramatist, born at Arezzo, April 20, 1492. His "Letters" are a valuable contribution to the history of the times. He died in Venice, Oct. 21, 1556.

Argali, the name for some species of the genus ovis, or sheep, which inhabits the mountains and steppes of Northern Asia. They are very keen-sighted, quick of hearing, and possess a delicate sense of smell. They attach themselves closely to one locality, and are noted for their great powers of leaping, even from heights of 20 or 30 feet. The Big-horn sheep of the Rocky Mountains are sometimes called American argali.

Argall, Sir Samuel, an early English adventurer in Virginia, born about 1572; planned and executed the abduction of Pocahontas, the daughter of the Indian chief Powhatan, in order to secure the ransom of English prisoners. He was Deputy Governor of Virginia (1617–1619), and was accused of many acts of rapacity and tyranny. By carrying on trade in violation of the law he managed to acquire a fortune, and was shielded from justice by the Earl of Warwick. He died in 1639.

Argand Lamp, a lamp named after its inventor, Aimé Argand, a Swiss chemist and physician (born 1755, died 1803), the distinctive feature of which is a burner forming a ring or hollow cylinder covered by a chimney, so that the flame receives a current of air both on the inside and on the outside.

Argemone, a genus of plants belonging to the poppy-worts. It has three sepals and six petals. The A. Mexicana, believed, as its name imports, to have come from Mexico, has conspicuous yellow flowers. From having its calyx prickly, it is often called Mexican thistle. The seeds are a more powerful narcotic than opium.

Argent, in coats or arms, the heraldic term expressing silver; represented in engraving by a plain white surface.

Argenta, a town in Pulaski county, Ark.; on the Arkansas river, and the Choctaw, Oklahoma & Gulf and other railroads; nearly opposite Little Rock; chiefly engaged in the live-stock and cotton industries. Pop. (1910) 11,138.

Argentina, formerly called the United Provinces of La Plata, a vast country of South America; extreme length, 2,100 miles; average breadth a litle over 500 miles; total area, 1,114,000 square miles. It is bounded on the N. by Bolivia; on the E. by Paraguay, Brazil, Uruguay, and the Atlantic; on the S. by the Antarctic Ocean; and on the W. by the Andes.

With the exception of the N. W., where lateral branches of the Andes run into the plain for 150 or 200 miles, and the province of Entre Rios, which is hilly, the characteristic feature of the country is the great monotonous and level plains called pampas. In the N., these plains are partly forest-covered, but all the central and S. parts present vast treeless tracts, which afford pasture to immense herds of horses, oxen, and sheep, and are varied in some places by brackish swamps, in others by salt steppes.

European grains and fruits, including the vine, have been successfully introduced, and are cultivated in most parts of the republic, countless herds of cattle and horses and flocks of sheep are pastured on the pampas, and multiply there very rapidly. Gold, siver, nickel, copper, tin, lead, and iron, besides marble, jasper, precious stones, and bitumen, are found in the mountainous districts of the northwest, while petroleum wells have been discovered on the Rio Vermejo; but the development of this mineral wealth has hitherto been greatly retarded by the want of proper means of transport. As a whole, there are not extensive forests in the country, except in the region of the Gran Chaco (which extends also into Bolivia), where there is known to be 60,000 square miles of timber. Thousands of square miles are covered with thistles, which grow to a great height in their season. Cacti also form great thickets. Peach and apple trees are abundant in some districts. The native fauna includes the puma, the jaguar, the tapir, the llama, the alpaca, the vicuna, armadilos, the rhea or nandu, a species of ostrich, etc. The climate is agreeable and healthful, 97° being about the highest temperature experienced. The native Indians, few in number, give little trouble to white settlers, although some of the Gran Chaco tribes are warlike and have killed foreign travellers. Some tribes, still in a savage state, inhabit less known districts and live by hunting and fishing. The typical inhabitants of the pampas are the Gauchos, a race of half-breed cattle-rearers and horsebreakers, almost continually in saddle, galloping the plains.

A. is divided into 14 provinces and 10 territories. Buenos Ayres, the capital, is connected with other large towns including Rosario, La Plata, Tucuman, Cordoba, Santa Fé, Mendoza, Paraná, etc., by 12,000 m. of railroads, and 27,500 m. of telegraph lines. Industries and commerce have increased with the arrival of large numbers of immigrants, chiefly Italians and Spaniards. In recent years the annual exports amounted to over $264,000,000, imports to over $187,000,000. The chief foreign trade, in order of importance, is with Great Britain, Germany, France, the United States and Belgium.

The government is republican, similar to that of the United States, and the President is elected for six years by the representatives of the 14 provinces. The population of the republic was returned in 1900 at 4,794,149. These figures compared with those of 1895 show a gain of 21 per cent. in five years.

Argillaceous Rocks. Rocks including slate, in which clay prevails.

Argol, a salt deposited by wine on the inside of bottles and barrels. It may be purified in hot water, and clarified by adding clay, and recrystallizing. In repeating the process it becomes white and is called cream of tartar.

Argon, a constituent gaseous element discovered in our atmosphere by Lord Rayleigh and Prof. Ramsay, in 1894. There is still much doubt concerning its true status.

Argonaut, one of the heroes who accompanied Jason in the ship "Argo" when he sailed on his mythic voyage in quest of the golden fleece (generally used in the plural). The tales describing the return of the Argonauts differ very essentially.

The word is also applied to a genus of cephalopod mollusks, the typical one of the family argonautidæ. The best known species is the argonaut, or paper sailor. The shell is thin and translucent. Aristotle supposed that it floated with the concave side up, the animal holding out its arms, after the manner of sails, to catch the breeze. Poets have ever since repeated the fable; but naturalists know that when the argonaut floats the sail-shaped arms are applied closely to the sides of the shell, and when the animal crawls at the bottom the so-called boat is reversed like the shell of a snail.

Argo-Navis, the southern constellation of the Ship, containing 9 clusters, 3 nebulæ, 13 double and 540 single stars, of which about 64 are visible.

Argos, a town of Greece, in the N. E. of the Peloponnesus, between the gulfs of Ægina and Nauplia or Argos. This town and the surrounding territory of Argolis were famous from the legendary period of Greek history onward, the territory containing, besides Argos, Mycenæ, where Agamemnon ruled, with a kind of sovereignty, over all the Peloponnesus.

Argosy, a poetical name for a large merchant vessel; derived from Ragusa, a port which was formerly more celebrated than now, and whose vessels did a considerable trade with England.

Argot, the jargon, slang or peculiar phraseology of a class or profession; originally the conventional slang of thieves and vagabonds, invented for the purpose of disguise and concealment.

Argument, a term sometimes used as synonymous with the subject of a discourse, but more frequently appropriated to any kind of method employed for the purpose of confuting or at least silencing an opponent.

Argus. (1) In classical mythology, a son of Arestor, said to have had 100 eyes, of which only two slept at one time, the several pairs doing so in succession. When killed by Mercury, his eyes were put into the tail of the peacock, by direction of Juno, to whom this bird was sacred. Argus was deemed a highly appropriate name to give to a vigilant watch dog.

(2) In zoology, a genus of birds. It contains the argus, or argus pheasant. The male measures between five and six feet from the tip of the bill to the extremity of the tail, and is an eminently beautiful bird, the quill-feathers of the wings, which often exceed three feet in length, being ornamented all along by a series of ocellated spots, about 80,000 in number.

Argyle, Campbells of, a historic Scottish family, raised to the peerage in the person of Sir Duncan Campbell of Lochow, in 1445. JOHN, second Duke and Duke of Greenwich, son of Archibald, born 1678, died 1743; served under Marlborough at the battles of Ramilies, Oudenarde, and Malplaquet, and assisted at the sieges of Lisle and Ghent. He incurred considerable odium in his own country for his efforts in promoting the union with England.

Ariadne, a daughter of Minos, King of Crete, who, falling in love with Theseus, then shut up by her father in the labyrinth, gave him a clue by which he threaded his way out.

Arian, a follower of Arius, Presbyter of Alexandria in the 4th century A. D., or one holding the system of doctrine associated with his name. In the year 317, Alexander, Bishop of Alexandria, having publicly expressed his opinion that the Son of God is not only of the same dignity as the Father, but of the same essence (in Greek, ousia), Arius, one of the Presbyters, considered this view as leaning too much to Sabellianism, and, rushing to the other extreme, he declared that the Son of God was only the first and noblest of created beings, and though the universe had been brought into existence through His instrumentality by the Eternal Father, yet to that Eternal Father He was inferior, not merely in dignity, but in essence. The views of Arius commended themselves to multitudes, while they were abhorrent to still more; fierce controversy respecting them broke out, and the whole

Christian world was soon compelled to take sides. It would occupy too much space to detail the vicissitudes of a highly checkered struggle; suffice it to say that the Arians greatly weakened themselves by splitting into sects, and the doctrines regarding the relation of the three Divine Personages authoritatively proclaimed at Nice were at last all but universally adopted. They may be found detailed in what are popularly termed the Nicene and the Athanasian Creeds. They were held almost without a dissentient voice through the Middle Ages, and were cordially accepted by the leading reformers.

Ariel, the name of several personages mentioned in the Old Testament; in the demonology of the later Jews a spirit of the waters. In Shakespeare's "Tempest," Ariel was the "tricksy spirit" whom Prospero had in his service.

Aries, in astronomy, the constellation Aries, or the Ram, one of the ancient zodiacal constellations, and generally called the first sign of the zodiac; also the portion of the ecliptic between 0° and 30° longitude, which the sun enters on March 21st (the vernal equinox).

Arimanes, or **Ahriman,** the principle of evil in the Persian theology, which perpetually counteracts the designs of Ormuzd or Oromazdes, who denotes the principle of good.

Arimathæa, a town of Palestine, identified with the modern Ramleh, 22 miles W. N. W. of Jerusalem.

Arion, an ancient Greek poet and musician, born at Methymna, in Lesbos, flourished about B. C. 625. He is said to have been rescued from drowning by a dolphin, which attracted by his music, bore him to land. A fragment of a hymn to Poseidon, ascribed to Arion, is extant.

Ariosto, Ludovico, an Italian poet, born at Reggio, Sept. 8, 1474. Was one of the three great epic poets of Italy, and styled "The Divine" by his countrymen. He died in Ferrara, June 6, 1533.

Arista, Don Mariano, a Mexican statesman, born in 1803. Of Spanish descent, he at an early age entered the army, in which he attained to the rank of major-general. He served with distinction in the war against the United States, was, in 1848, appointed Minister of War, and, in 1850, President of the Republic. He was succeeded as President in 1852, by Don Juan Cebellos. He died in 1855.

Aristarchus, a Greek grammarian, who criticised Homer's poems with the greatest severity.

Aristarchus of Samos, a famous astronomer, born 267 B. C. First asserted the revolution of the earth about the sun. His work on the magnitude, and distance of the sun and moon, is still extant. He is also regarded as the inventor of the sun-dial.

Aristides, a statesman of ancient Greece, for his strict integrity surnamed "The Just." He died at an advanced age about B. C. 468, so poor that he was buried at the public expense. It was customary in Athens for citizens to vote by a ballot of shells — hence called ostracism from the Greek word for shell — for the exile of any citizen who might be unpopular, without any specific charge being made against him. Aristides was, on one occasion the victim of ostracism, and a citizen who voted against him gave as a reason, that he was tired of hearing him called "The Just."

Aristippus, a disciple of Socrates, and founder of a philosophical school among the Greeks, which was called the Cyrenaic, from his native city Cyrene, in Africa; flourished in 380 B. C. His moral philosophy differed widely from that of Socrates, and was a science of refined voluptuousness. His writings are lost.

Aristobulus, name of several royal personages of Judea: ARISTOBULUS I., son of John Hyrcanus, high priest of the Jews; from 105–104 B. C. King of Judea. He is supposed to have been the first of the Hasmoneans to take the title of king. In the single year of his reign he conquered portions of Iturea and Trachonitis, and compelled the people to accept Judaism. ARISTOBULUS II., son of Alexander Jannæus, was named as high priest by his mother, Queen Regent Alexandra, while to Hyrcanus II., his elder brother, the throne was given. In a contest for the throne, he was

defeated by Pompey in 63 B. C., and carried captive to Rome. He died about 48 B. C. ARISTOBULUS III., a grandson of Hyrcanus II.; his sister, Mariamne, was the wife of Herod I., who appointed him high priest, but, fearing his popularity, had him assassinated about 30 B. C. ARISTOBULUS III. was the last male of the Hasmonean family.

Aristobulus, an Alexandrian Jew and peripatetic philosopher, who lived about 170 B. C., was considered by the early fathers as the founder of the Jewish philosophy in Alexandria.

Aristocracy, a form of government by which the wealthy and noble, or any small privileged class, rules over the rest of the citizens; now mostly applied to the nobility or chief persons in a State.

Aristophanes, the greatest of the Greek writers of comedy (B. C. 448?–380?), born at Athens.

Aristotle, the most renowned of Greek philosophers, born at Stagira, Macedonia, 384 B. C.; was for 20 years a student of philosophy in the school of Plato at Athens, but at the same time a teacher, in the meantime mastering and digesting all the accessible results of philosophical and scientific research and speculation in his time. After Plato's death, he opened a school of Philosophy at the court of Hermias, King of Atarnous, in Mysia, who had been his fellow student in Plato's Academy, and whose adopted daughter he afterward married. At the invitation of Philip of Macedon, he undertook the education of his son, Alexander. When Alexander succeeded to the throne, the philosopher returned to Athens and opened a school in the Lyceum, so called from the neighboring temple of the Lycian Apollo. He taught in the Lyceum for 13 years, and to that period we owe the composition of most of his numerous writings. The number of his separate treatises is given by Diogenes Laertius as 146; only 46 separate works bearing the name of the philosopher have come down to our time. He died at Chalcis, Eubœa, in 322 B. C.

Arithmetic, in its broadest sense, the science and art which treat of the properties of numbers. This definition, however, would include algebra, which is considered a distinct branch. Algebra deals with certain letters of the alphabet, such as x, y, z, a, b, c, etc., standing as symbols for numbers; arithmetic operates on numbers themselves, as 1, 2, 3, 4, etc. Viewed as a science, arithmetic is a branch of mathematics; looked on as an art, its object is to carry out for practical purposes certain rules regarding numbers, without troubling itself to investigate the foundation on which those rules are based.

Ari Thorgilsson, the father of Icelandic literature (1067–1148).

Arizona, a State of the Western Division of the North American Union; bounded by Nevada, Utah, New Mexico, California and the Mexican State of Sonora; gross area, 113,020 square miles; organized Feb. 14, 1863; number of counties,13; pop. (1900) 122,212; (1910) 204,354; capital, Phœnix. The University of Arizona was founded in 1884 and opened in 1891.

A. abounds with mineral wealth including coal, iron, gold, silver, copper, lead, platinum, quicksilver, tin, etc.; mining, ranching and lumbering are the chief industries.

Of the total area, embracing over 113,020 square miles, only a comparatively small portion, about 2.7 per cent. is farmingland. The rainfall is so small, that irrigation is depended upon to make agriculture profitable. The construction of irrigating canals and water storage reservoirs is being steadily promoted and is daily adding largely to the agricultural area. The pine timber land covers an area of nearly 4,000,000 acres, giving the Territory resources for timber and building material unsurpassed anywhere in the country.

For a long time, beginning with 1874, Arizona agitated for independent Statehood. In Congress there was a disposition to admit both Arizona and New Mexico at once and on the same terms; but opposition to this prevented the passage of such a bill.

A joint resolution of both Houses of Congress (Aug. 21, 1911) provided for the admission of both States; and in accordance with the proclamation of the President Arizona achieved Statehood in January, 1912.

Arjish Dagh, the loftiest peak of the peninsula of Asia Minor, at the

western extremity of the Anti-Taurus Range, 13,150 feet; an exhausted volcano; on the N. and N. E. slopes are extensive glaciers.

Ark, a chest or coffer for the safekeeping of any valuable thing; a depository. The large floating vessel in which Noah and his family were preserved during the deluge.

The Ark of the Covenant, in the synagogue of the Jews, was the chest or vessel in which the tables of the law were preserved.

Arkansas, a State in the South Central Division of the North American Union; bounded by Missouri, Tennessee, Mississippi, Louisiana, Texas and the Indian Territory; gross area, 53,850 square miles; admitted into the Union, June 15, 1836; seceded, March 4, 1861; readmitted June 22, 1868; number of counties, 75; pop. (1900) 1,311,564; (1910) 1,574,449; capital, Little Rock.

The State contains semi-anthracite, cannel, and bituminous coal; iron and zinc ores; galena, frequently bearing silver; manganese; gypsum, oil-stone of superior quality; marble; alabaster; rock crystal; copper; granite; kaolin; marl; mineral ochers, and salt. The most valuable mineral production at present is coal.

The soil varies with the geological characteristics and surface conditions already described. Agriculturally, the most valuable soil is found in the river bottom-lands, and as the surface rises from these bottoms the soil becomes less productive. There are large submerged tracts that only require proper drainage to make them valuable to the farmer. The uplands generally are well timbered and well watered. The most valuable production is cotton. Of cereals, corn has the largest yield.

In 1900 there were 4,794 manufacturing establishments reported, employing $35,960,640 capital and 28,150 persons; paying $9,937,387 for wages and $23,963,768 for materials; and having a combined output valued at $45,197,731. The principal articles were lumber, sawed and worked; flour and grist; cotton-seed oil and cake; foundry and machine shop products; and brick and tile.

The public schools are liberally maintained and well attended. For higher instruction there are 48 public high schools; 24 private secondary schools; 1 public and 6 private normal schools; 8 universities and colleges for men and for both sexes; and the Central Baptist College for Women, at Conway. The principal universities and colleges are Arkansas College (opened 1872, Presb.); Arkansas Industrial University (1872, non-sect.); Philander Smith College (1877, Meth. Epis.); Hendrix College (1884, Meth. Epis. S.); Ouachita College (1886, Bapt.); Arkadelphia College (1890, Meth. Epis.); Arkansas Cumberland College (1891, Cumb. Presb.); and Mountain Home College (1893, Bapt.).

The strongest denominations numerically in the State are the Methodist Episcopal, South; Regular Baptist, Colored; Regular Baptist, South; African Methodist Episcopal; Disciples of Christ, and the Methodist Episcopal.

The total length of railroads within the State, Jan. 1, 1900, was 3,167 miles, of which 269.48 miles were constructed during the previous year. The assessed valuation of railroad property, with that of telegraph and express companies, was about $23,000,000.

The Governor is elected for a term of two years and receives a salary of $4,000 per annum. Legislative sessions are held biennially, and are limited to 60 days each. The Legislature has 35 members in the Senate and 100 in the House, each of whom receives $6 per day and mileage. There are 7 Representatives in Congress.

Arkansas Post, a village in Arkansas county, Ark.; on the Arkansas River; 117 miles S. E. of Little Rock. Its elevated location gave it considerable military importance during the Civil War. The Confederates established strong works here, which were reduced by a combined assault of a portion of the United States army, under General McClernand, and a naval command under Admiral Porter, on Jan. 11, 1863.

Arkansas, University of, a coeducational institution organized in 1872, with academic and technical departments in Fayetteville, law and medical departments in Little Rock, and normal school for colored students in Pine Bluff.

Arkwright, Sir Richard, an English inventor, born at Preston, in Lancashire, in 1732. The youngest of 13 children, he was bred to the trade of a barber. When about 35 years of age he gave himself up exclusively to the subject of inventions for spinning cotton. His invention introduced the system of spinning by rollers, the carding, or roving, as it is technically termed (that is, the soft, loose strip of cotton), passing through one pair of rollers, and being received by a second pair, which are made to revolve with (as the case may be) three, four, or five times the velocity of the first pair. By this contrivance the roving is drawn out into a thread of the desired degree of tenuity and hardness. Having made several additional discoveries and improvements in the processes of carding, roving, and spinning, he took out a fresh patent for the whole in 1775. He was knighted by George III. in 1786, and died in 1792.

Arlington, a town and village in Middlesex county, Mass.; on the Boston & Maine railroad; 6 miles N. W. of Boston; is the largest source of Boston's market garden produce supply. Pop. (1910) 11,187.

Arlington Heights, a range of hills in Fairfax county, Va., on the Potomac, opposite Washington. They were strongly fortified during the Civil War. Gen. Robert E. Lee had a residence here. The place is now the site of a National Soldiers' Cemetery.

Arm, the upper limb in man, connected with the thorax or chest by means of the scapula or shoulder-blade, and the clavicle or collar-bone.

Armada, a fleet of armed ships; a squadron; particularly applied to that great naval armament, which was called the Invincible Armada, fitted out in 1588, by Philip II. against Queen Elizabeth. It consisted of 129 ships, carrying about 20,000 soldiers and 8,000 sailors. The loss of the Marquis of Santa Cruz, their admiral, and a violent tempest, the day after they sailed, retarded for some time the operations of the Spaniards. They arrived on the coast of the Netherlands in July, were thrown into disorder by a stratagem of Lord Howard, and in this situation were attacked with such impetuosity that it became necessary to attempt to return. Contrary winds obliged the Spanish admiral, the Duke of Medina Sidonia, to make the circuit of Great Britain with the wreck of this magnificent armament. In passing the Orkneys, it was attacked by a violent storm, and only a feeble remnant returned to Spain.

Armadillo, the Spanish-American name, now imported into English, of various mammalia belonging to the order edentata. The name armadillo, implying that they are in armor, is applied to these animals because the upper part of their body is covered with large, strong scales or plates, forming a helmet for their head, a buckler for their shoulders, transverse bands for their back, and in some species a series of rings for the protection of their tail. Another peculiarity is the great number of their molar teeth; these amount in one species to more than 90. There are five toes on the hinder feet, and four or five, according to the species, on the anterior ones. The fore feet are admirably adapted for digging, and the animal, when it sees danger, can extemporize a hole and vanish into it with wonderful rapidity.

Armageddon, the great battlefield of the Old Testament, where the chief conflicts took place between the Israelites and their enemies — the tableland of Esdraelon in Galilee and Samaria, in the center of which stood the town Megiddo, on the site of the modern Lejjun; used figuratively in the Apocalypse to signify the place of "the battle of the great day of God."

Armenia, a mountainous country of Western Asia, not now politically existing, but of great historical interest. It varied in extent at different epochs, but it may be regarded as lying between lat. 36° 50′ and 41° 41′ N., and lon. 36° 20′ and 48° 40′ E. It was sometimes subdivided into First, Second, and Third Armenia, to which a Fourth was afterward added; but the division by which it was almost universally known was into Armenia Major and Armenia Minor, or the Greater and the Less Armenia. It would seem to have stretched from the Caspian Sea and the Persian province of Azerbijan on the E. to Asia Minor on the W., and from the Kur

or Cyrus river on the N. to Kurdistan and Mesopotamia on the S. Armenia Major comprised the larger and E. portion of this area, extending W. as far as the Euphrates and the Anti-Taurus, and having an area of about 84,000 square miles. Armenia Minor extended from the Euphrates to Asia Minor, and its area may be stated at about 53,000 square miles. The Euphrates thus intersects Armenia almost centrally, and forms the natural boundary between the two divisions now described. The territory of this kingdom is now partitioned among Turkey, Persia, and Russia, Turkey possessing the largest share.

The inhabitants are chiefly of the genuine Armenian stock; but besides them, in consequence of the repeated subjugation of the country, various other races have obtained a footing. Of these the principal are the Turcomans, who still maintain their nomadic habits, and from whom the country has received the name of Turcomania. In the S. portion are the predatory Kurds and the Turks; on the Tchorak, Georgians; and throughout the whole country, Greeks, Jews, and Gypsies. The total number of Armenians has been estimated at 2,000,000, of whom probably one-half are in Armenia. The remainder, like the Jews, are scattered over various countries, and being strongly addicted to commerce, play an important part as merchants. They are found over all Western Asia; about 200,000 are in Constantinople and its vicinity; numbers are in Russia, Hungary, and Italy; some in Africa and America; and a large number in India, chiefly in the great marts, Bombay, Madras, and Calcutta. Everywhere they are engaged in banking and trading. Their eyes and hair are black, their look lively, noses aquiline, and their complexion somewhat swarthy. The women are remarkable for the delicacy and regularity of their features.

The Armenians received Christianity as early as the 3d century. During the Monophysitic disputes, being dissatisfied with the decisions of the Council of Chalcedon (451), they separated from the Greek Church in the year 536. The Popes have at different times attempted to gain them over to the Roman Catholic faith, but have not been able to unite them permanently and generally with the Roman Church. There are, however, small numbers here and there of United Armenians, who acknowledge the spiritual supremacy of the Pope, agree in their doctrines with the Catholics, but retain their peculiar ceremonies and discipline. At different times force has been used to make them conform to the religion of Mohammed; but the far greater part are yet Monophysites, and have remained faithful to their old religion and worship. They have suffered the usual fate of Christion populations subject to Turkey, and the massacres of Armenians in 1895 and 1896 excited the horror of the civilized world. Many have emigrated to the United States.

The Armenian language belongs to the great Indo-European family of languages, and is most closely connected with the Iranic group.

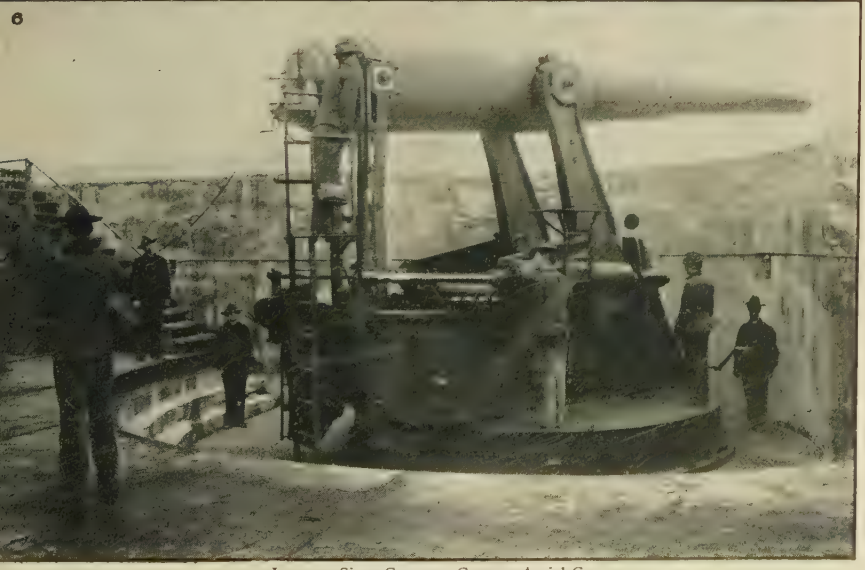
Arminianism, the doctrine of Arminius, a Protestant divine, who maintained that God had predestinated the salvation or condemnation of individuals only from having foreseen who would and who would not accept of offered mercy.

Arminius, or **Hermann,** who by his intrepidity and success acquired the title of "the Deliverer of Germany," was son of Segimer, a chief of the Cherusci. Having been sent to Rome as a hostage, he was there educated, served in the Roman army and for his valor was raised to citizenship and knighted. But his attachment to his native country induced him to revolt and he became one of the most powerful leaders of the discontented German nations. He drew Varus, the Roman commander on the Rhine, into that ambuscade in which he and nearly all his troops were slain, and completely baffled Germanicus; but, after having for years withstood the vast power of Rome, Arminius was assassinated by one of his own countrymen, in the 37th year of his age, A. D. 19.

Arminius, Jacobus, a Protestant divine, born at Oudewater, Holland, 1560, founder of the sect of the Arminians. A life of perpetual labor and vexation of mind at last brought on a sickness, of which he died, 1609.

Armistice, the term given to a truce or suspension of hostilities be-

1—United States Aerial Gun (Copyright by G. V. Buck) 2—English Artillery on Pontoons
3—English Quick Firing Gun



4—Japanese Siege Gun 5—German Aerial Gun
6—United States Disappearing Gun

tween two armies or nations at war, by mutual consent.

Armitage, Edward, an English historical and mural painter, born in London, May 20, 1817.

Armitage, Thomas, an American clergyman; born at Pontefract, England, Aug. 2, 1819; was an important influence in the Baptist Church in New York city, and the prime mover in the establishment of the American Bible Union in 1850. He was president of that body from 1856 to 1875. Died, Yonkers, N. Y., Jan. 21, 1896.

Armor, a word formerly applied to all such contrivances as served to defend the body from wounds or to annoy the enemy. Hence it was divided into two kinds, defensive and offensive. A complete suit of defensive armor anciently consisted of a casque or helm, a gorget, cuirass, gauntlets, tasses, brassets, cuishes and covers for the legs, to which the spurs were fastened. This was called armor, cap-a-pie, and was worn by cavaliers and men-at-arms. The infantry had only part of it, viz., a pot or headpiece, a cuirass and tasses; all of them made light. The horses had armor which covered the head and neck. Of all this equipment of war, scarcely anything is now retained except, in a few cases, the cuirass.

The word is now applied to the metal protection given to ships of war, usually consisting of super-carbonized steel or nickel steel.

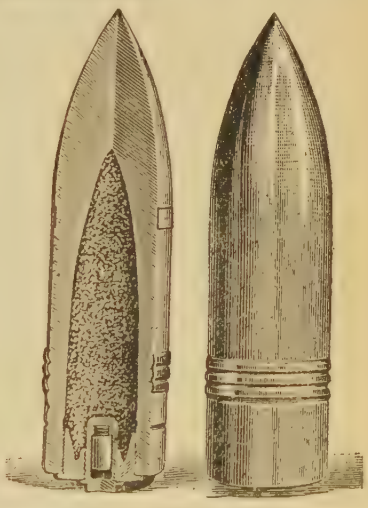
Armored Train, one of the modern instruments of war that received severe tests in the American operations against Filipino insurgents in 1898–1899, and in those of the British against the Boers in 1899–1900.

Armor-Piercing Shells, projectiles so constructed as to bore through the metallic plates with which modern ships of war are coated.

Armor Plates, slabs of metal with which the sides of war vessels are covered to render them shot-proof.

Armour, Philip Danforth, an American philanthropist, born in Stockbridge, N. Y., May 16, 1832; received a common school education; was a miner in California in 1852–1856; in the commission business in Milwaukee in 1856–1863; and later became the head of a large meat-packing concern in Chicago. He founded the Armour Mission and the Armour Institute of Technology, both in Chicago; the former at a cost of about $250,000, and the latter with an endowment of $1,500,000, subsequently increased. He died Jan. 6, 1901.

Arms, a term applied to weapons of offense, which are divisible into two distinct sections — firearms, and arms used without gunpowder or other explosive substance.



ARMOR-PIERCING SHELLS.

Arms, Coat of, or **Armorial Bearings,** a collective name for the devices borne on shields, banners, etc., as marks of dignity and distinction, and, in the case of family and feudal arms, descending from father to son. They were first employed by the crusaders, and became hereditary in families at the close of the 12th century. They took their rise from the knights painting their banners or shields each with a figure or figures proper to himself, to enable him to be distinguished in battle when clad in armor.

Arms, Stand of, the set of arms necessary for the equipment of a single soldier.

Armstrong, Sir Alexander, an English physician, born in Ireland

about 1820; was educated at Trinity College, Dublin, and at the University of Edinburgh; and became widely known as an explorer. He died July 5, 1899.

Armstrong, John, an American author and soldier; born at Carlisle, Pa., Nov. 25, 1758; served in the War of the Revolution on the staff of General Gates; was United States Minister to France, 1804–1810, afterward to Spain; and Secretary of War, 1813–1814. Author of "Newburg Letters," begun in camp, 1783, anonymously, and intended to arouse Congress to redress army grievances. They gave General Washington displeasure. He died at Red Hook, N. Y., April 1, 1843.

Armstrong, Samuel Chapman, an American educator, born in Hawaii in 1839, a son of Richard Armstrong, an American missionary to the Sandwich Islands. In 1860 he came to the United States; in 1862 was graduated at Williams College; and in June of the same year he organized a company for the 125th Regiment of New York Infantry, and with it was assigned to the Army of the Potomac. At Harper's Ferry he was captured and held prisoner for three months. After the close of the war he was mustered out of the volunteer service with the rank of brigadier-general. During his service he volunteered for the command of a regiment of colored troops, with whom he served two years. In 1866 he took up the work of the Freedman's Bureau and at first had the oversight of the colored people in 10 counties of Virginia. After two years in this work he procured help from the American Missionary Association and personal friends in the North and founded a school which afterward became famous as the Hampton Normal and Agricultural Institute. The United States Government, recognizing the great value of his work for colored youth here, began sending Indian youth to the Institute in 1878, and since then the two races have been educated together. General Armstrong served as president of the Institute till his death, May 11, 1893.

Armstrong, William George, Lord, an English inventor, born in 1810 at Newcastle, where his father was a merchant. During the Crimean War, Armstrong was employed by the War Office to make explosive apparatus for blowing up the ships sunk at Sebastopol. This led him soon afterward to consider improvements in ordnance, and he devised the form of cannon that bears his name. Cambridge and Oxford conferred honorary degrees on Armstrong, who was raised to the peerage as Baron Armstrong in 1887. He died Dec. 27, 1900.

Army, the national military of a country, usually divided into a standing, and the reserves, in the United States known as militia, who are called to arms only in emergency.

Army Corps, one of the largest divisions of an army in the field, comprising all arms, and commanded by a general officer; subdivided into divisions, which may or may not comprise all arms.

Army Hospital Train, a railway contrivance for military purposes, introduced by the Surgeon-General of the United States Army during the war with Spain, in 1898, for the purpose of conveying sick and wounded soldiers, on their arrival from Cuba, at Florida ports, to the various military hospitals in the United States. This train had a full staff of physicians, surgeons and trained nurses, and was completely equipped with everything necessary for the medical and surgical treatment of the soldiers. It is believed to have been the first train service completely organized for such purpose.

Army Register, an annual publication of the United States Government, giving personal, regimental and other details of the regular army, corresponding to the British "Army List."

Army Reserve, in most European armies, a force consisting of a first and second class army reserve and a militia reserve.

Army War College, a department of the United States military educational establishment authorized by Congress in 1900. Brig.-Gen. William Ludlow was made chief of the board which drafted the regulations.

Army Worm, the very destructive larva of the moth, so called from its habit of marching in compact bodies of enormous number, devouring al-

most every green thing it meets. It is about 1½ inches long, greenish in color, with black stripes, and is found in various parts of the world, but is particularly destructive in North America.

Arnaud, Henri, the pastor and military leader of the Vaudois of Piedmont; born in 1641. At the head of his people he successfully withstood the united forces of France and Savoy, and afterward did good service against France in the War of the Spanish Succession. He had to retire from his country, and was followed by a number of his people, to whom he discharged the duties of pastor till his death, which occurred in 1721.

Arnaud, Jacques Achille Leroy De Saint, Marshal of France; born in Bordeaux, Aug. 20, 1796. In March, 1854, he was appointed to the command of the French army which was engaged in the war against Russia. He died Sept. 29 following.

Arndt, Ernst Moritz, a German writer and patriot, born at Schoritz, Isle of Rugen, Dec. 29, 1769. He died in Bonn, Jan. 29, 1860.

Arndt, Johann, a German Lutheran clergyman, born at Ballenstedt, Anhalt, in 1555. His "True Christianity" was translated into most European languages, and is yet popular in Germany. Its object is edification. He died at Celle, Hanover, in 1621.

Arne, Thomas Augustine, an English musical composer, born in London, March 12, 1710. He wrote the music for the revival of Milton's "Masque of Comus," in which first appeared the song of "Rule Britannia," since acknowledged as the national air of England. He died in 1778.

Arnee, one of the numerous Indian varieties of the buffalo, remarkable as being the largest animal of the ox kind known. It measured about 7 feet high at the shoulders, and from 9 to 10½ feet long from the muzzle to the root of the tail. It is found chiefly in the forests at the base of the Himalayas.

Arneth, Alfred von, an Austrian historian, born in Vienna, July 10, 1819. He died in Vienna, July 31, 1897.

Arnica, a genus of plants belonging to the order asteraceæ, or composites; also the English name of plants. As an outward application, arnica is in constant use as a remedy for sores, wounds, bruises, and ailments of a similar kind. It is also employed as an internal medicine.

Arnim, Achim von, a German poet and novelist, born in Berlin, Jan. 26, 1781. He died at Wiepersdorf, Jan. 31, 1831.

Arnim, Elizabeth von, better known as BETTINA, wife of the German novelist Louis Achim von Arnim, and sister of the poet Clemens Brentano; born in Frankfort-on-the-Main, April 4, 1785. She died in Berlin, Jan. 20, 1859.

Arnim, Harry, Graf von, a German diplomatist, born in Pomerania, in 1824; from 1864 to 1870, was Prussian ambassador at Rome, where he supported the anti-infallibists during the Vatican Council. He was rewarded with the title of Graf, but, as German ambassador to France (1872–1874), he fell into Prince Bismarck's disfavor, and, on a charge of purloining State documents, was sentenced to three months', to six months', and to five years' imprisonment. He had, however, retired into exile, and died at Nice, May 19, 1881.

Arno, a river of Italy, which rises in the Etruscan Apennines, makes a sweep to the South and then trends westward, divides Florence into two parts, washes Pisa, and falls, 4 miles below it, into the Tuscan Sea, after a course of 130 miles.

Arnold, Abraham Kerns, an American military officer, born in 1837; was graduated at the United States Military Academy in 1859; entered the cavalry branch of the army; served through the Civil War and received a Congressional medal of honor for gallantry in action; and after the war served against the Indians on the frontier. In 1898, he was commissioned a Brigadier-General and served in the field during the war with Spain; and in 1899 became commander of the 2d Division, 7th Army Corps, on duty in Cuba.

Arnold, Sir Arthur, an English statesman and author, born in 1833. He acted as assistant commissioner to

administer the Public Works Act during the cotton famine, 1863–1866; knighted in June, 1895.

Arnold, Benedict, an American military officer, born in Norwich, Conn., Jan. 14, 1741. He was settled in extensive business at New Haven when the War of Independence broke out. After the news of the battle of Lexington, he raised a body of volunteers, and received a colonel's commission. After commanding, for a short time, a small fleet upon Lake Champlain, he was with General Montgomery, charged with the difficult duty of leading a force of 1,100 men across the wilds of the country to Quebec, to stir up rebellion there, and displace the British garrison. In this unsuccessful attempt Montgomery was killed and Arnold severely wounded. After this, we find him in various important commands, but as often involved in quarrels with Congress and his fellow-officers. It would be of little interest now to enter into a detail of his grievances. He seems to have been a singularly brave, but reckless and unprincipled, man. Washington valued him for his acts of daring, and would gladly have overlooked his faults; but Congress and his brother-officers regarded him with dislike, and sought every possible means to humble and annoy him. After many disputes about the honor that was due to him for his services, he was invested with the government of Philadelphia. There his imprudence was most marked; indeed, it would be difficult to clear him from the charge of actual dishonesty. He was brought before a court-martial; four charges were urged against him; two of these were found proven, and he was sentenced to be reprimanded by the commander-in-chief. Arnold could not bear the affront, nor longer endure the difficulties into which he had brought himself. He, accordingly, formed the disgraceful design of deserting to the ranks of the enemy, and put himself in communication with Sir Henry Clinton, the British commander. Major Andre was sent by Sir Henry to negotiate with Arnold, and they had an interview near West Point, which fortress Arnold had offered to surrender to the enemy. On his way to the British camp, however, the young officer fell into the hands of the Americans, and the whole plot was of course discovered. The news of Andre's capture reached Arnold just in time to enable him to make his escape and reach the British camp in safety. There he retained his rank of brigadier-general, and fought with as much daring against the cause of American independence as he had before fought against the royal forces. He took command in an expedition against Virginia, and again in an incursion into his native State. Afterward he served in Nova Scotia and the West Indies, and at last settled in London, England, where he died, June 14, 1801.

Arnold, Sir Edwin, an English poet and journalist, born in Rochester, June 10, 1832. He graduated from Oxford in 1854; taught for a while in Birmingham; and became principal of the Sanskrit College at Poona, in the Bombay Presidency, where he rendered important service to the government during the great rebellion in India. Returning to London in 1861, he joined the editorial staff of the "Daily Telegraph." He has twice visited the United States. He died March, 1904.

Arnold, Edwin Lester, an English author, son of Sir Edwin Arnold.

Arnold, George, an American poet, born in New York, June 24, 1834; died at Strawberry Farms, N. J., Nov. 3, 1865.

Arnold, Hans, pseudonym of Bertha von Bulow, a German story writer, born at Warmbrunn, Silesia, Sept. 30, 1850.

Arnold, Isaac Newton, an American lawyer, politician, and author, born at Hartwick, N. Y., Nov. 30, 1815; was a member of Congress from 1861 to 1865. He died in Chicago, Ill., April 24, 1884.

Arnold, Matthew, an English poet, critic, and essayist, born at Laleham, Dec. 24, 1822; graduated at Oxford in 1844, and was Professor of Poetry there from 1857 to 1867. Arnold first became known as a poet of classical taste by the volume of poems and selections issued under his name in 1854. He died in Liverpool, April 15, 1888.

Arnold of Brescia, one of the reformers prior to the Reformation, a

disciple of Abelard of Paris, and of Berengarius. As early as the middle of the 12th century, his bold spirit, his scriptural knowledge, and his eloquence, had succeeded in arousing France and Italy against the abuses of the Roman Church. Driven by the clergy from Italy, he sought refuge in Zurich, where he made many converts. At length, through the instigation of St. Bernard of Clairvaux, he was charged with heresy, and excommunicated by Pope Innocent II. At this juncture, serious popular tumults occurred at Rome, and Arnold, hastening thither, was received with great cordiality, and soon vested with supreme power. In 1155, however, Adrian IV. interdicted and expelled him from the city. For a time he lived in Campagna, but was seized, and taken back to Rome, where he was executed, and his ashes were thrown into the Tiber.

Arnold of Winkelried, a Swiss hero, who, at the battle of Sempach, in 1386, sacrificed himself to insure victory to his countrymen. The Austrian knights, dismounted, had formed themselves into a phalanx, which the Swiss vainly strove to pierce; when Arnold, rushing on the spear points of the enemy, and burying several in his breast, thus opened a gap in the fence of steel. The Swiss rushed in through the opening, and routed the Austrians with great slaughter.

Arnold, Thomas, an English clergyman and historian, born in Cowes, Isle of Wight, June 13, 1795. He entered Oxford University in 1811, and was elected a fellow of Oriel College in 1815. While in this place he was the friend and contemporary of the poet Keble, of Copleston, and of Archbishop Whately. In 1828, Arnold was elected to the head-mastership of Rugby School, which office he held until his death, and raised it, by the enlightened system of education he inaugurated, to the highest rank among the great public schools of England. He died June 12, 1842.

Arnold, Thomas, an English writer on literature, and editor of old texts, son of Dr. Arnold, of Rugby, and brother of Matthew Arnold, born at Laleham, Nov. 30, 1823. He published a manual of English literature that is widely used. He was one of those engaged in the Tractarian movement, and was closely connected with Cardinal Newman. He died in 1900.

Arnolfi, di Cambio, or **di Lapo,** an Italian architect and sculptor, born in Florence, in 1232. He died in 1300.

Arnott, Neil, a Scottish physicist, born in Aberdeen, in 1788. He died in 1874.

Arnotto, the waxy-looking pulp which envelops the seeds in the arnotto-tree. This is detached by throwing the seed into water, after which it is dried partially, and made up first into soft pellets, rolled in leaves, in which state it is called flag, or roll arnotto. Afterward, becoming quite dry, it is formed into cakes, and becomes cake arnotto. The South American Indians color their bodies red with it; farmers here and elsewhere use it to stain cheese, and some dairymen also use it to color butter; the Spaniards put it in their chocolate and soups; dyers use it to produce a reddish color, and varnish makers, to impart an orange tint to some varnishes.

Aroostook, an American river; rises in Piscataquis county, Me.; flows more than 120 miles in a circuitous course, receiving many important tributaries; and enters the St. John River in New Brunswick. It was an important factor in the settlement of the long-pending dispute concerning the boundary between the United States and British America.

Arpad, the conqueror of Hungary, and founder of the Arpad dynasty, which reigned till 1301, was born in the second half of the 9th century. He died in 907.

Arpent, formerly a French measure for land, equal to five-sixths of an English acre; but it varied in different parts of France.

Arquebus, a hand-gun; a species of firearm resembling a musket, anciently used. It was fired from a forked rest, and sometimes cocked by a wheel, and carried a ball that weighed nearly two ounces. A larger kind used in fortresses carried a heavier shot.

Arrack, a term used in the countries to whch the Arabs have penetrated, for distilled spirits.

Arrest, the seizure of a suspected criminal or delinquent that security may be taken for his appearance at the proper time before a court to answer to a charge.

In law, an arrest of judgment is the act or process of preventing a judgment or verdict from being carried out till it shall be ascertained whether it is faulty or legally correct.

Arrow, a missile weapon, designed to be propelled by the impulse communicated by the snapping of the string of a bow, temporarily bent into an angular form, back to its normal state of rest in a straight line. To make the wound it inflicts more deadly, and prevent its being easily pulled out, it is barbed at the tip, and often poisoned, while at the other extremity it is feathered, to make it move more directly forward. It is one of the most ancient of weapons.

Arrow Lake, an expansion of the Columbia river, in British Columbia, Canada; about 95 miles long from N. to S.; often regarded as forming two lakes—Upper and Lower Arrow Lake.

Arrowroot. In botany, the English name of the botanical genus maranta. The root is a fleshy corm, which, when washed, grated, strained through a sieve, and again repeatedly washed, furnishes the substance so much prized as food for invalids.

Arrowsmith, Aaron, an English cartographer, born in 1750, died in 1823. He raised the execution of maps to a perfection it had never before attained.

Arru Islands, a group of over 80 islands in the Dutch East Indies, lying W. of New Guinea, with a united area of about 2,650 square miles and a population of some 15,000. The inhabitants resemble the Melanesians of New Guinea.

Arsaces, founder of the Parthian monarchy. He induced his countrymen to rise against the Macedonian yoke, 250 B. C., on which they raised him to the throne. Arsaces was slain in battle, after a reign of 38 years. He was the first of a long line of monarchs of the same name, the last of whom was put to death about 226 A. D.

Arsenal, a place appointed for the making, repairing, keeping and issuing of military stores of all kinds. The principal arsenals of the United States in 1900 were the Allegheny (Pa.); Augusta (Ga.); Benecia (Cal.); Columbia (Tenn.); Fort Monroe (Va.); Frankford (Pa.); Indianapolis (Ind.); Kennebec (Me.); New York (N. Y.); Rock Island (Ill.); San Antonio (Tex.); Watertown (Mass.); and Watervliet (N. Y.). There were also powder depôts at St. Louis (Mo.), and Dover (N. J.); a noted armory at Springfield (Mass.), and an ordnance proving ground at Sandy Hook (N. J.).

Arsenic, (symbol As, atomic weight 75), a metallic element of very common occurrence, being found in combination with many of the metals in a variety of minerals. It is of a dark-gray color, and readily tarnishes on exposure to the air, first changing to yellow, and finally to black. In hardness it equals copper; it is extremely brittle, and very volatile, beginning to sublime before it melts. It burns with a blue flame, and emits a smell of garlic. Its specific gravity is 5.76. It forms alloys with most of the metals. Combined with sulphur it forms orpiment and realgar, which are the yellow and red sulphides of arsenic. It is usually seen in white, glassy, translucent masses, and is obtained by sublimation from several ores containing arsenic in combination with metals, particularly from arsenical pyrites. Of all substances arsenic is that which has most frequently occasioned death by poisoning, both by accident and design. The remedies are hydrated sesquioxide of iron with copious draughts of gummy liquids.

Arsinoë, a city of ancient Egypt on Lake Mœris, said to have been founded about B. C. 2300, but renamed after Arsinoë, wife and sister of Ptolemy II. of Egypt, and called also Crocodilopolis, from the sacred crocodiles kept at it.

Arson, the malicious and willfu burning of a dwelling-house or outhouse belonging to another person by directly setting fire to it, or even by igniting some edifice of one's own in its immediate vicinity. It is a penal offense, whether successful or not.

Art, the power of doing something not taught by nature or instinct; as,

to walk is natural, to dance is an art; — power or skill in the use of knowledge; the practical application of the rules, or principles of science. A system of rules to facilitate the performance of certain actions; contrivance; dexterity; address; adroitness.

Art, Metropolitan Museum of, a spacious edifice in Central Park, New York, erected by the city for the purpose to which it is devoted. It was incorporated in 1870, and possesses an art collection amounting in value to over $2,000,000.

Artaxerxes I., surnamed Longimanus, was the third son of Xerxes, King of Persia, and, having murdered his brother Darius, ascended the throne 465 B. C. He died in 424 B. C. and was succeeded by his only son, Xerxes. This prince is generally supposed to have been the Ahasuerus of Scripture, who married Esther, and by whose permission Ezra restored the Jewish religion at Jerusalem. Some modern authors, nevertheless, identify Ahasuerus with Xerxes.

Artemis, an ancient Greek divinity, identified with the Roman Diana. She is variously represented as a huntress, with bow and arrows; as a goddess of the nymphs, in a chariot drawn by four stags; and as the moon goddess, with the crescent of the moon above her forehead.

Artemisia, wormwood; named after Artemis, the Greek goddess, corresponding to the Roman Diana. Several species, locally known as sage brush, are found on the table-lands of the Rocky mountains and on the Western plains of the United States.

Arteritis, an inflammation occurring in the arteries. It may be acute or chronic.

Artery. The largest arteries which leave the heart are the aorta and the pulmonary artery; both spring from the base of the heart in front. They branch and anastomose to a large extent. The contractility of the arteries forces the blood to the extremities from the heart, the valves of which prevent its return. The prominent difference between blood drawn from the arteries and that from the veins is to be found in the bright scarlet color of the former and the dark red, almost black, of the latter.

Artesian Wells, deep wells bored through impervious rock strata to a porous water bearing rock stratum whence the water flows to the surface and is discharged from the bore. It is also applied, though less correctly, to deep wells where the waters rise to within a short distance of the surface even if no real flow is established. The principal condition of an artesian well is a pervious stratum protected above and below by a watertight bed. These layers come to the surface in some elevated regions where they get their rain flow, then pitch downward to a considerable depth and then rise again, thus forming a great basin which retains the water. Rain water and surface water fill the porous stratum to the brim. If it be tapped any, the water will rise in the bore and be discharged as long as the supply equals the demand.

Arteveld, or **Artevelde,** the name of two men distinguished in the history of the Low Countries. (1) JACOB VAN, a brewer of Ghent, born about 1300; was selected by his fellow townsmen to lead them in their struggles against Count Louis of Flanders. A proposal to make the Black Prince, son of Edward III. of England, governor of Flanders, led to an insurrection, in which Arteveld lost his life (1345). (2) PHILIP, son of the former, at the head of the forces of Ghent, gained a great victory over the Count of Flanders, Louis II., and for a time assumed the state of a sovereign prince. His reign proved short-lived The Count of Flanders returned with a large French force, fully disciplined and skillfully commanded. Arteveld was rash enough to meet them in the open field at Roosebeke, between Courtrai and Ghent, in 1382, and fell with 25,000 Flemings.

Arthralgia, pain in a joint. The term is more particularly applied to articular pain in the absence of objective disease.

Arthritis, any inflammatory distemper that affects the joints, particularly chronic rheumatism or gout.

Arthur, a prince of the Silures, and King of Britain in the time of the Saxon invasions in the 5th and 6th centuries. The existence and exploits of Arthur and of his paladins, the

Knights of the Round Table, whether they have any real foundation or are but a mere historical fable, have been for ages the theme of minstrels and poets, even down to the present day; examples of which are the famous romaunt of the "Mort d'Arthur" and the "Idylls of the King."

Arthur, Chester Alan, 21st President of the United States, born in Fairfield, Vt., Oct. 15, 1830, his father being pastor of Baptist churches in Vermont and New York. He chose law as a profession, and practiced in New York. He became an active leader in the Republican party. During the Civil War he was energetic as quartermaster-general of New York in getting troops raised and equipped. He was afterward collector of customs for the port of New York. In 1880 he was elected Vice-President, succeeding as President on the death of James A. Garfield, in 1881, and in this office he gave general satisfaction. He died in New York city, Nov. 18, 1886.

Arthur, Joseph Charles, an American botanist, born in 1850; was graduated at the Iowa Agricultural College in 1872; took advance courses at Johns Hopkins, Harvard, and Bonn Universities; was instructor in botany at the Universities of Minnesota and Wisconsin, and for several years botanist to the Agricultural Experiment Station, Geneva, N. Y., subsequently becoming Professor of Vegetable Physiology and Pathology at Purdue University, and botanist to the Indiana Experiment Station.

Arthur, Timothy Shay, an American author, born in Newburg, N. Y., in 1809. He died in Philadelphia, Pa., March 6, 1885.

Artichoke, a well-known plant cultivated chiefly for culinary purposes. The so-called Jerusalem artichoke is a species of sunflower which grows wild in parts of South America and yields roots or tubers resembling those of the potato and used as food.

Article, in grammar, a part of speech used before nouns to limit or define their application.

Articles of Confederation, the title of the compact which was made by the 13 original States of the United States of America. It was adopted and carried into force on March 1, 1781, and remained as the supreme law, until the first Wednesday of March, 1789.

Articles of War, a code of laws for the regulation of the military forces of a country. In the United States the articles of war form an elaborate code, thoroughly revised in 1880, but subject at all times to the legislation of Congress.

Articles, The Six, in English ecclesiastical history, articles imposed by a statute (often called the Bloody Statute) passed in 1541, the 33d year of the reign of Henry VIII. They decreed the acknowledgment of transubstantiation, the sufficiency of communion in one kind, the obligation of vows of chastity, the propriety of private masses, celibacy of the clergy, and auricular confession. Acceptance of these doctrines was made obligatory on all persons under the severest penalties; the act, however, was relaxed in 1544, and repealed in 1549.

Articles, The Thirty-nine, of the Church of England, a statement of the particular points of doctrine, 39 in number, maintained by the English Church; first promulgated by a convocation held in London in 1562–1563, and confirmed by royal authority; founded on and superseding an older code issued in the reign of Edward VI. The five first articles contain a profession of faith in the Trinity; the incarnation of Jesus Christ, His descent to Hell, and His resurrection; the divinity of the Holy Ghost. The three following relate to the canon of the Scripture. The eighth article declares a belief in the Apostles', Nicene, and Athanasian creeds. The ninth and following articles contain the doctrine of original sin, of justification by faith alone, of predestination, etc. The 19th, 20th, and 21st declare the Church to be the assembly of the faithful; that it can decide nothing except by the Scriptures. The 22d rejects the doctrine of purgatory, indulgences, the adoration of images, and the invocation of saints. The 23d decides that only those lawfully called shall preach or administer the sacraments. The 24th requires the liturgy to be in English. The 25th and 26th declare the sacraments effectual signs of grace (though administered by evil men), by which God excites and con-

firms our faith. They are two: baptism and the Lord's Supper. Baptism, according to the 27th article, is a sign of regeneration, the seal of our adoption, by which faith is confirmed and grace increased. In the Lord's Supper, according to article 28th, the bread is the communion of the Body of Christ, the wine the communion of His Blood, but only through faith (article 29); and the communion must be administered in both kinds (article 30). The 28th article condemns the doctrine of transubstantiation, and the elevation and adoration of the Host; the 31st rejects the sacrifice of the mass as blasphemous; the 32d permits the marriage of the clergy; the 33d maintains the efficacy of excommunication. The remaining articles relate to the supremacy of the king, the condemnation of Anabaptists, etc. They were ratified anew in 1604 and 1628.

Artillery, all sorts of great guns, cannon, or ordnance, mortars, howitzers, machine-guns, etc., together with all the apparatus and stores thereto belonging, which are taken into the field, or used for besieging and defending fortified places. It is often divided into (1) horse artillery; (2) field artillery; and (3) garrison artillery.

Artillery, The Ancient and Honorable, of Boston, Mass., was formed in 1637, and was the first regularly organized military company in America.

Arundelian Marbles, a series of ancient sculptured marbles discovered by William Petty, who explored the ruins of Greece at the expense of and for Thomas Howard, Earl of Arundel, who lived in the time of James I. and Charles I., and was a liberal patron of scholarship and art. After the Restoration they were presented by the grandson of the collector to the University of Oxford. Among them is the "Parian Chronicle," a chronological account of the principal events in Grecian, and particularly in Athenian, history, during a period of 1318 years.

Arundel Society, a society instituted in London in 1848 for promoting the knowledge of art by the publication of fac-similes and photographs.

Aruspices, or **Haruspices,** a class of priests in ancient Rome, of Etrurian origin, whose business was to inspect the entrails of victims killed in sacrifice, and by them to foretell future events.

Aryan Languages, a great family of languages, sometimes, though rarely, and not quite accurately, called Japhetic; more frequently designated as the Indo-European or Indo-Germanic family of tongues. They have reached a higher development than those of the second great family, the Semitic, better described as the Syro-Arabian family, and are far in advance of the next one — that comprising the Turanian tongues. Like the Syro-Arabian forms of speech, they are inflectional; while those of Turanian origin are only agglutinate.

Aryan Race, a designation, since about 1845, of the ethnological division of mankind otherwise called Indo-European or Indo-Germanic. That division consists of two branches geographically separated, an eastern and western. The western branch comprehends the inhabitants of Europe, with the exception of the Turks, the Magyars of Hungary, the Basques of the Pyrenees, and the Finns of Lapland; the eastern comprehends the inhabitants of Armenia, of Persia, of Afghanistan, and of Northern Hindustan. The evidence on which a family relation has been established among these nations is that of language, and from a multitude of details it has been proven that the original mother tongue of all these peoples was the same. It is supposed that the Aryan nations were at first located somewhere in Central Asia, probably E. of the Caspian, and N. of the Hindu Kush and Paropamisan Mountains. From this center successive migrations took place toward the N. W. The first swarm formed the Celts, who at one time occupied a great part of Europe; at a considerably later epoch came the ancestors of the Italians, the Greeks and the Teutonic people. The stream that formed the Slavonic nations is thought to have taken the route by the N. of the Caspian. At a later period the remnant of the primitive stock would seem to have broken up. Part passed southward and became the dominant race in the valley of the Ganges, while

the rest settled in Persia and became the Medes and Persians of history. It is from these eastern members that the whole family takes its name. In the most ancient Sanskrit writings (the Veda), the Hindus style themselves Aryas, the word signifying "excellent," "honorable," originally "lord of the soil."

Asa, son of Abijah, and third King of Judah, conspicuous for his earnestness in supporting the worship of God and rooting out idolatry, and for the vigor and wisdom of his government. He reigned from 955 to 914 B. C.

Asafetida, Asafœtida, or **Assafœtida,** the English name of two, if not more, plants growing in Persia and the East Indies. The extract is a useful medicine in hysteria, asthma, tympanites, dyspnœa, pertussis, and worms; it is sometimes given also as a clyster.

Asama, an active volcano of Japan, about 50 miles N. W. of Tokio, 8,260 feet high.

Asbestos, a variety of hornblende, which itself is classed by Dana as a synonym or subdivision of emphibole.

Asbury, Francis, the first Methodist bishop consecrated in America, born at Handsworth, Staffordshire, Aug. 20, 1745. When 16 years old he became an itinerant Wesleyan preacher, and in 1771 he was sent as a missionary to America, where he was consecrated in 1784. During a long life of almost incessant labor it is estimated by his biographer that he traveled about 270,000 miles (mostly on horseback), preached about 16,500 sermons, and ordained more than 4,000 preachers. He died in Richmond, Va., March 31, 1816.

Asbury Park, a city and popular summer resort in Monmouth county, N. J.; on the Atlantic Ocean and the Pennsylvania and Central of New Jersey railroads; 6 miles S. of Long Branch. Wesley Lake separates it from Ocean Grove. Pop. (1910) 10,150; summer pop. 20,000.

Ascalon, Ashkelon, or **Askelon,** one of the five cities of the Philistines, on the Mediterranean, W. S. W. of Jerusalem, on the main road from Egypt through Gaza to Central Palestine.

Ascension (discovered on Ascension Day), an island of volcanic origin belonging to Great Britain, near the middle of the South Atlantic Ocean, lying about lat. 7° 55′ S.; long. 15° 25′ W.; 800 miles N. W. of St. Helena; area, about 36 square miles; pop. 165. It is retained by Great Britain mainly as a station at which ships may touch for stores.

Ascension, in astronomy, right ascension is the distance of a heavenly body from the first point of Aries (the ram), measured upon the equator.

Ascension Day, the day on which our Saviour's ascension is commemorated — the Thursday but one before Whitsuntide, sometimes called Holy Thursday.

Asceticism, the condition or practice of ascetics.

Ascetics, a name given in ancient times to those Christians who devoted themselves to severe exercises of piety and strove to distinguish themselves from the world by abstinence from sensual enjoyments and by voluntary penances.

Ascham, Roger, an English scholar and author, born at Kirby Wiske, near Northallerton, in 1515; graduated at Cambridge, and struggled with poverty until patrons came to his relief. He was famous for his general knowledge and acquirements in Greek and Latin, and is classed with Spenser, Sir Thomas More, and Sir Philip Sidney. His death, in London, Dec. 30, 1568, was occasioned by his too close application to the composition of a poem, which he intended to present to the queen on the anniversary of her accession.

Asclepiad, a kind of verse used by Horace and other writers.

Asclepiades, the descendants of the god of medicine, Æsculapius, by his sons Podalirius and Machaon, spread, together with the worship of the god, through Greece and Asia Minor. They formed an order of priests, which preserved the results of the medical experience acquired in the temples as an hereditary secret, and were thus, at the same time, physicians, prophets, and priests.

Asclepiades, a Greek physician, born at Prusa, Bithynia, who flourished during the early part of the 1st

century B. C. He is said to have been the first who distinguished between acute and chronic diseases, and the invention of laryngotomy is also ascribed to him; but his knowledge of anatomy was apparently very slight.

Asclepias, a genus of plants. The species are found chiefly along the eastern portion of North America, in Bermuda, etc. Though all more or less poisonous, they are used medicinally.

Ascot Heath, a race-course in Berkshire, England, 29 miles W. S. W. of London, and 6 miles S. W. of Windsor.

Asdood, or **Asdoud,** a small seaport of Palestine, on the Mediterranean, 35 miles W. of Jerusalem. It was the Ashdod of Scripture, one of the five confederate cities of the Philistines, and one of the seats of the worship of Dagon (1 Sam. v: 5).

Asgard, the Heaven of Scandinavian mythology.

Ash, a genus of deciduous trees, having imperfect flowers and a seed vessel prolonged into a thin wing at the apex (called a samara). There are a good many species, chiefly indigenous to North America and Europe.

Ashanti, or **Ashantee,** formerly a kingdom, now a British protectorate, in West Africa, on the Gold Coast, and to the N. of the river Prah; area about 70,000 square miles. It is in great part hilly, well watered, and covered with dense tropical vegetation. The chief town is Coomassie, which, before being burned down in 1874, was well and regularly built with wide streets. and had from 30,000 to 50,000 inhabitants. Horrible human sacrifices were a feature of Ashanti worship when the country was independent. In 1896 a British expedition, from the Gold Coast, forced the submission of the King, who, with his principal chiefs, was sent to Sierra Leone, and established a protectorate In 1900 a rising was suppressed and Sept. 26, 1901, the country was annexed. A railway has been built from the modern port of Sekondi 168 m. to Co-omassie. telegraph and telephone lines installed, good roads made, and steamer river traffic established, to the improvement of commerce. Pop. 1,500,000.

Ashburton Treaty, a treaty concluded at Washington in 1842, by Alexander Baring, Lord Ashburton, and the President of the United States; it defined the boundaries between the United States and Canada.

Asheville, city and capital of Buncombe county, N. C.; at junction of the Swananoa and French Broad rivers, and on the Southern railroad; 275 miles W. of Raleigh. It is on the Blue Ridge Mountains, 2,350 feet above the sea; is a noted winter and summer resort; and has several colleges, and normal and industrial schools. Nearby is George Vanderbilt's famous estate of Biltmore. Pop. (1910) 18,762.

Ashland, city, port of entry, and capital of Ashland county, Wis.; on Lake Superior and several trunk line railroads; 315 miles N. of Milwaukee; has a magnificent harbor fringed with enormous ore docks; is a notable shipping point for the ore of the great Gogebic iron range; and besides iron ore has a large lake traffic in lumber and brownstone. The noted Apostle Islands are nearby. Pop. (1910) 11,594.

Ashmun, Jehudi, an American missionary, born at Champlain, N. Y., in April, 1794; became a professor in the Bangor Theological Seminary. On June 19, 1822, he sailed for Liberia, and there founded a colony, which, when he left, six years later, had increased to 1,200 inhabitants. He died Aug. 25, 1828.

Ashtabula, a city in Ashtabula county, O.; on the Ashtabula river and the Lake Shore & Michigan Southern railroad; 3 miles S. of Lake Erie, 54 miles N. E. of Cleveland; is a port of entry, with a fine harbor and extensive trade in iron ore and coal; manufactures leather and woolen goods, farm implements, machinery, gas fixtures, and stoves and furnaces. Pop. (1910) 18,266.

Ashtaroth, or **Astaroth,** plural of **Ashtoreth** and **Astarté,** a goddess worshipped by the Jews in times when idolatry prevailed; the principal female divinity of the Phœnicians, as Baal was the principal male divinity; and the plural Ashtaroth indicate probably different modifications of the divinity herself. Ashtoreth is the As-

tarté of the Greeks and Romans, and is identified by ancient writers with the goddess Venus (Aphrodite). She is probably the same as the Isis of the Egyptians, and closely connected with the Asherah of Scripture.

Ashwanipi, or **Hamilton,** the great river of Labrador, has its source near the head waters of the E. branch of the Moisic, and after a course of 600 miles, enters the Atlantic through Esquimaux Bay, or Hamilton Inlet. About 100 miles up occur the falls, one of the grandest spectacles in the world.

Ash Wednesday, the first day of Lent, so called from a custom in the Western Church of sprinkling ashes that day on the heads of penitents, then admitted to penance.

Asia, the largest of the land divisions of the world, occupies the northern portion of the Eastern Hemisphere in the form of a massive continent, which extends beyond the Arctic circle, and by its southern peninsulas nearly reaches the equator. The origin of its name remains unknown. Europe and Asia constitute but one continent, extending from W. to E., and having the shape of an immense triangle, the angles of which are Spain in the W., the peninsula of the Tchuktchis in the N. E., and that of Malacca in the S. E. The Arctic Ocean in the N., the Pacific in the E., and the Indian Ocean, continued by its narrow gulf, the Red Sea, which nearly reaches the Mediterranean, inclose the continent of Asia. The area covered by Asia and its islands is 17,255,890 square miles; that is, almost exactly one-third of the land surface of the globe (32 per cent). It is one-seventh larger than the surface of both Americas together, by one-half larger than that of Africa, and more than four times larger than Europe. Geographically speaking, Europe is a mere appendix to Asia, and no exact geographical delimitation of the two continents is possible. The line of separation from Africa is better defined by the narrow Red Sea; but Arabia participates so largely in the physical features of Africa that it is in a sense intermediate between the two continents.

Only four rivers, the Mississippi, Amazon, Kongo, and Nile, surpass the largest rivers of Asia, the Yenisei and the Yang-tse-kiang, both as to length and drainage areas; but owing to the scarcity of rain over large parts of Asia, the amount of water carried down by the largest rivers is, as a rule, disproportionately small as compared with American or European rivers. The predominant feature of Asia's hydrography is the existence of very wide areas having no outlet to the sea. On the great plateau of Eastern Asia, the region which has no outlet from the plateau, and whose water does not reach even Lake Aral or the Caspian, covers a surface larger than that of Spain, France, and Germany together. It is watered only by the Tarim, which supplies some irrigation works in its upper parts, and enters the rapidly drying marshes of Lob-nor. This area is steadily increasing, and since 1862 we have had to add to it the drainage area (as large as England and Wales) of the Keruleñ, which empties into Dalai-nor, but no longer reaches the Arguñ, a tributary of the Amur. The Ulyasutai River and the Tchagantogoi now no longer reach Lake Balkash; and the Urungu, which obviously joined the Upper Irtysh at no very remote date, empties into a lake separated from the Black Irtysh by a low isthmus not 5 miles wide. If we add to this the drainage basins of Lake Balkash with its tributaries, the Ili and other smaller rivers; the great Lake Aral, with the Syr-daria (Jaxartes) and Amudaria (Oxus), as also the numerous rivers which flow toward it or its tributaries, but are desiccated by evaporation before reaching them, and finally the Caspian with its tributaries, the Volga, Ural, Kura, and Terek, we find an immense surface of more than 4,000,000 square miles; that is, much larger than Europe, which has no outlet to the ocean. The plateaus of Iran and Armenia, two separate areas in Arabia, and one in Asia Minor, represent a surface of 5,567,000 square miles.

A succession of great lakes or inland seas are situated all along the northern slope of the high plateaus of Western and Eastern Asia, their levels becoming higher as we advance farther E. The Caspian, 800 miles long and 270 wide, is an immense sea,

even larger than the Black Sea, but its level is now 85 feet below the level of the ocean; Lake Aral, nearly as wide as the Ægean Sea, has its level 157 feet above the ocean; farther E. we have Lake Balkash (780 feet), Zaison (1,200 feet), and Lake Baikal (1,550 feet). Many large lakes appear on the plateaus of Tibet (Tengrinor, Bakha), and on the high plateau of the Selenga and Vitim (Ubsa-nor, Ikhe-aral, Kosogol, Oron); and smaller lakes and ponds are numerous also in the plateau of the Deccan, Armenia, and Asia Minor. Three large lakes, Urmia, Van, and Goktcha, and many smaller ones, lie on the highest part of the Armenian plateau. On the Pacific slope of the great plateau, the great rivers of China and the Amur, with its tributaries, have along their lower courses some large and very many small lakes.

More than 120 active volcanoes are known in Asia, chiefly in the islands of the S. E., the Philippines, Japan, the Kurile, and Kamchatka, and also in a few islands of the Seas of Bengal and Arabia, and in Western Asia. Numerous traces of volcanic eruptions are found in Eastern Tian-shan in the northwestern border ridges of the high Siberian plateau, and in the S. W. of Aigun, in Manchuria. Earthquakes are frequent, especially in Armenia, Turkestan, and around Lake Baikal.

There are gold mines of great wealth in the Urals, the Altai, and Eastern Siberia; and auriferous sands are found in Korea, Sumatra, Japan, and in the Caucasus Mountains. Silver is extracted in Siberia; platina, in the Urals; copper, in Japan, India, and Siberia; tin, in Banca; mercury, in Japan. Iron ore is found in nearly all of the mountainous regions, especially in Asia Minor, Persia, Turkestan, India, China, Japan, and Siberia; but iron mining is still at a rudimentary stage. Immense coal-beds are spread over China and the islands of the Pacific (Hainan, Japanese Archipelago, Sakhalin), Eastern Siberia, Turkestan, India, Persia, and Asia Minor. They cover no less than 500,000 square miles in China alone; but the extraction of coal is as yet very limited. Graphite of very high quality is found in the Sayans and Northern Siberia. The diamonds of India, the sapphires of Ceylon, the rubies of Burma and Turkestan, the topazes, beryls, etc., of the Urals and Nertchinsk, have a wide repute. Layers of rock-salt are widely spread, and still more so the salt lakes and springs. The petroleum wells of the Caspian shores already rival those of the United States. A variety of mineral springs, some of them equal to the best waters of Western Europe, are widely spread over Asia.

The aggregate population of Asia is estimated at 865,000,000, being thus more than one-half of the entire population of the globe. This population, however, is small, giving only an average of 49 inhabitants per square mile. It is unequally distributed, and reaches 557 per square mile in some provinces of China, denser than in Belgium (539 per square mile), and 520 in some parts of Northwestern India. It is greatest in those parts of Asia which are most favored by rains. Seven-tenths have scarcely more than from 3 to 20 inhabitants per square mile; and nearly one-tenth is quite uninhabited. The inhabitants of Asia belong to five different groups; the so-called Caucasian (fair type) in Western Asia and India; the Mongolian in Central and Eastern Asia, as also in the Indo-Chinese Peninsula; the Malay in Malacca and the Indian Archipelago; the Dravidas in Southeastern India and Ceylon; and the Negritos and Papuas in the virgin forests of the Philippine Islands and Celebes; also a sixth great division comprising the stems which inhabit Northeastern Asia, the Hyperboreans, whose affinities are not yet well known. The Mongolian race alone embraces nearly seven-tenths of the population of Asia; the Malay, about two-tenths, and the Caucasian about one-tenth. The Europeans reckon about 6,000,000 (Russians) in Caucasus, Turkestan and Siberia; some 150,000 (English) in India; and 45,000 in the Dutch Indies.

Asia has been the birthplace of religions; the Jewish, Buddhist, Christian and Mohammedan having their origin in Asia, where they grow up under the influence of still older religions, the Babylonian and that of Zoroaster, both also of Asiatic origin. At present the inhabitants of Asia belong chiefly to the Buddhist religion,

which has 530,000,000 to 560,000,000 of followers, i. e., nearly one-third of mankind. The old faith of Hinduism has 187,000,000 of followers in India. Most of the inhabitants of Western Asia, as also of part of Central Asia, follow the religion of Islam; they may number about 90,000,000. The Christians number about 20,000,000 in Armenia, Caucasus, Siberia and Turkestan. Jews are scattered mostly in Western and Central Asia. A few fire-worshippers, Guebres or Parsi of India and Persia, are the sole remnant of the religion of Zoroaster; while vestiges of Sabæism are found amidst the Gesides and Sabians on the Tigris.

Asia Minor (Asia the Less, as distinguished from Asia in the widest extent), is the name usually given to the western peninsular projection of Asia, forming part of Turkey in Asia.

The inhabitants, some 7,000,000 in number, consist of the most various races. The dominant race are the Osmanli Turks, who number about 1,200,000, and are spread over the whole country; allied to these are the Turkomans and Yuruks, speaking a dialect of the same language. The latter are found chiefly on the tableland, leading a nomadic life; there are also hordes of nomadic Kurds. Among the mountains E. of Trebizond are the robber tribes of the Lazes.

The Greeks and Armenians are the most progressive elements in the population, and have most of the trade.

Ask, in Scandinavian mythology, the name of the first man created. According to the legend, one day three gods, Odin, Hæner and Loder, found two trees by the seaside, an ash and an elm. From these trees they created the first man and first woman, Ask and Embla, and gave them the earth as their dwelling place.

Askew, Anne, a victim of religious persecution, born in 1521; was a daughter of Sir William Askew of Lincolnshire, and was married to a wealthy neighbor named Kyme, who, irritated by her Protestantism, drove her from his house. In London, whither she went, probably to procure a divorce, she spoke against the dogmas of the old faith, and, being tried, was condemned to death as a heretic. Being put to the rack to extort a confession concerning those with whom she corresponded, she continued firm, and was then taken to Smithfield, chained to a stake, and burned, in 1546.

Askja, a volcano near the center of Iceland, first brought into notice by an eruption in 1875. Its crater is 17 miles in circumference, surrounded by a mountain-ring from 500 to 1,000 feet high, the height of the mountain itself being between 4,000 and 5,000 feet.

Asmodai, or **Asmodeus,** an evil spirit, who, as related in the book of Tobit, slew seven husbands of Sara, daughter of Raguel, but was driven away into the uttermost parts of Egypt by the young Tobias under the direction of the angel Raphael. Asmodai signifies a desolator, a destroying angel. He is represented in the Talmud as the prince of demons who drove King Solomon from his kingdom.

Asp, a species of viper found in Egypt, resembling the cobra da capello, and having a very venomous bite. When approached or disturbed it elevates its head and body, swells out its neck, and appears to stand erect to attack the aggressor. Hence the ancient Egyptians believed that the asps were guardians of the spots they inhabited, and the figure of this reptile was adopted as an emblem of the protecting genius of the world. Cleopatra is said to have committed suicide by means of an asp's bite, but the incident is generally associated with the horned viper.

Asparagus, a plant of the order liliaceæ, the young shoots of which, cut as they are emerging from the ground, are a favorite culinary vegetable.

Aspasia, a celebrated Grecian, belonging to a family of some note in Miletus, and was early distinguished for her graces of mind and person. She went to Athens after the Persian War, and, by her beauty and accomplishments soon attracted the attention of the leading men of that city. She engaged the affections of Pericles, who is said to have divorced his former wife in order to marry her. Their union was harmonious throughout; he preserved for her to the end of his life the same tenderness; she re-

mained the confidant of the statesman's schemes, and the sharer of his struggles. She survived Pericles some years, and is reported to have married an obscure Athenian, Lysicles, whom she raised by her example and precept to be one of the leaders of the republic.

Aspen, a tree, the trembling poplar. The tremulous movement of the leaves which exists in all the poplars, but culminates in the aspen, mainly arises from the length and slender character of the petiole or leaf-stalk, and from its being much and laterally compressed.

Aspern, a small village of Austria, on the Danube, about 2 miles from Vienna. Here, and in the neighboring village of Esslingen, were fought the tremendous battles of the 21st and 22d of May, 1809, between the French grand army, commanded by Napoleon, and the Austrians under the Archduke Charles. The French, after this continuous fighting, with vast loss to both sides, were obliged to retreat, and occupy the island of Lobau.

Asphalt, or **Asphaltum,** the most common variety of bitumen; also called mineral pitch. Asphalt is a compact, glassy, brittle, black or brown mineral, which breaks with a polished fracture, melts easily with a strong pitchy odor when heated, and when pure burns without leaving any ashes. It is found in the earth in many parts of Asia, Europe and the United States, and in a soft or liquid state on the surface of the Dead Sea, which, from its circumference, was called Asphaltites. It is of organic origin, the asphalt of the great Pitch Lake of Trinidad being derived from bituminous shales, containing vegetable remains in the process of transformation. Asphalt is produced artificially in making coal gas. During the process, much tarry matter is evolved and collected in retorts. If this be distilled, naphtha and other volatile matters escape, and asphalt is left behind.

What is known as asphalt rock is a limestone impregnated with bitumen, found in large quantities in the United States and in Switzerland, France, Alsace, Hanover, Holstein, Sicily, and other parts of Europe, the purest forms taking the names of elaterite, gilsonite, albertite, maltha, brea, etc. In the trade there is wide distinction between these and the sandstones, and limestones impregnated with bitumen, which are known as bituminous or asphaltic limestone, sandstone, etc. The latter are usually shipped without being previously treated or refined, and are used principally in street paving. This class is known as bituminous rock. The production of all kinds of asphalt in the United States is nearly 200,000 tons per annum, valued at over $2,000,000, from California, Utah, Oklahoma, Kentucky, and Texas.

Asphodel, (Asphodelus), a genus of plants, order Liliaceæ, consisting of perennials, with fasciculated fleshy roots, flowers arranged in racemes, six stamens inserted at the base of the perianth, a sessile almost spherical ovary with two cells, each containing two ovules; fruit a capsule with three cells, in each of which there are, as a rule, two seeds. They are fine garden-plants, native of Southern Europe. The king's spear, A. luteus, has yellow flowers blossoming in June. Asphodelus ramōsus, which attains a height of 5 feet, is cultivated in Algeria and elsewhere, its tubercles yielding a very pure alcohol, and the residue, together with the stalks and leaves, are used in making pasteboard and paper. The asphodel was a favorite plant among the ancients, who were in the habit of planting it round their tombs.

Asphyxia, suspended animation; an interruption of the arterialization of the blood, causing the suspension of sensation and voluntary motion. It may be produced by breathing some gas incapable of furnishing oxygen, by submersion under water, by suffocation, from an impediment to breathing applied to the mouth and nostrils, by strangulation, or by great pressure, external or internal, upon the lungs. If asphyxia continues unrelieved for a short period, it is necessarily followed by death.

Aspinwall. (See Colon).

Aspinwall, William, an American physician, born in Brookline, Mass., May 23, 1743; was graduated at Harvard University in 1764; studied medicine in Philadelphia; was a

volunteer in the fight at Lexington; and afterward became surgeon in the Revolutionary army, having partial charge of the military hospital at Jamaica Plains. After the war, he became deeply interested in the subject of vaccination, and, building a small-pox hospital at Brookline, established that remedy in American practice. He died April 16, 1823.

Aspinwall, William H., an American merchant, born in New York city, Dec. 16, 1807; was trained to commercial business by his uncles, and became a member of the firm of Howland & Aspinwall in 1837. He is best remembered as the chief promoter of the Panama railroad, and of the Pacific Mail Steamship Company. The eastern terminus of the railroad was named in his honor, but has since officially been given the name of Colon. He died in New York city, Jan. 18, 1875.

Aspromonte, a mountain of Italy, in the S. W. of Calabria, where Garibaldi was wounded and taken prisoner with the greater part of his army, in August, 1862.

Asquith, Herbert Henry, an English lawyer, born in Morley, Sept. 12, 1852; was educated at Oxford University, became a barrister at Lincoln's Inn in 1876; was appointed Secretary of State for the Home Department; Ecclesiastical Commissioner in 1882-1885; became Q. C. in 1890, and P. C. in 1892; was elected to Parliament from East Fife in 1896 on the Liberal ticket; and became Prime Minister and First Lord of the Treasury in 1908.

Asrael, the Mohammedan angel of death, who takes the soul from the body.

Ass (asinus), a genus closely related to the horse. It differs from the latter in having short hair at the root of the tail and a long tuft at the end, in the absence of warts on the hind legs, and in the persistence of stripes, except in albinos. The upright mane, the long ears, the cross stripe on the shoulders, and the dark bands on the back, are also characteristic. The stupidity for which the animal has for long been proverbially reproached seems largely the result of human influence. The female carries her foal 11 months. The mule is a hybrid bred between mare and male ass; while the hinny is the rare result of hybridism between horse and female ass.

Assam, a province at the N. E. extremity of British India, with an area of 52,078 square miles. In 1874 it was formed into a separate administration (including Cachar) under a chief commissioner. One of the most striking features of Assam is the abundance of wild animals, such as tigers, rhinoceroses, leopards, bears, buffaloes, and elephants. The snakes are the most destructive to human life. Some 400 people are killed every year by wild animals, for whose destruction about $5,000 is yearly paid as a reward. Tea is the chief product, over 300,000 acres being cultivated. Pop. (1901) 6,122,201.

Assassination, the act of taking the life of anyone by surprise or treacherous violence, either by a hired emissary, by one devoted to the deed, or by one who has taken the task upon himself. Generally, the term is applied to the murder of a public personage.

Assassins, or **Ismaili,** a sect of religious fanatics who existed in the 11th and 12 centuries. They derived their name of assassins originally from their immoderate use of hasheesh, which produces an intense cerebral excitement, often amounting to fury. Their founder and law giver was Hassan-ben-Sabah, to whom the Orientals gave the name of Sheikh-el-Jobelz, but who was better known in Europe as the "Old Man of the Mountain." They believed assassination to be meritorious when sanctioned by his command, and courted danger and death in the execution of his orders. In the time of the crusades, they mustered to the number of 50,000.

Assault, in military language, a furious effort to carry a fortified post, camp, or fortress, where the assailants do not screen themselves to any works. It is the appropriate termination of a siege which has not led to the capitulation of the garrison. To give an assault: To attack any post. To repulse an assault: To cause the assailants to retreat; to beat them back. To carry by assault: To gain a post by storm.

In law, an assault is a movement which virtually implies a threat to strike one, as when a person raises his hand or his cane in a menacing manner, or strikes at another but misses him. It is not needful to touch one to constitute an assault. When a blow actually takes effect, the crime is not simple assault, but assault and battery.

Assaying, the estimation of the amount of pure metal, and especially of the precious metals in an ore or alloy.

Assay Offices, in the United States, government establishments in which citizens may deposit gold and silver bullion, receiving in return its value, less charges. The offices are in New York city; Boise City, Ida.; Helena, Mont.; Denver, Col.; Seattle, Wash.; San Francisco, Cal.; Charlotte, N. C.; and St. Louis, Mo.

Assegai, a spear used as a weapon among the Kaffirs of South Africa, made of hard wood tipped with iron, and used for throwing or thrusting.

Assembly, General, official name of the supreme ecclesiastical court of the Established Church of Scotland, of the Free Church of Scotland, of the Presbyterian Church in Ireland, and of the two Presbyterian Churches in the United States. The term is also used in the United States to designate the dual legislative body of the several States, the branches being commonly spoken of as the Senate and the House (of Representatives).

Assembly, National, a body set up in France on the eve of the Revolution. The members bound themselves by oath not to separate until they had furnished France with a constitution, and the court was compelled to give its assent. In the 3,250 decrees passed by the Assembly were laid the foundations of a new epoch, and having accomplished this task, it dissolved itself, Sept. 30, 1791. The term is also applied to a joint meeting of the Senate and Corps Legislatif, for the purpose of electing a chief magistrate or the transaction of other extraordinary business.

Assent, The Royal, is the approbation given by the sovereign in Parliament to a bill which has passed both Houses, after which it becomes a law.

Assets (French, assez, enough), property or goods available for the payment of a bankrupt or deceased person's obligations. Assets are personal or real, the former comprising all goods, chattels, etc., devolving upon the executor as salable to discharge debts and legacies. In commerce and bankruptcy the term is often used as the antithesis of liabilities, to designate the stock in trade and entire property of an individual or an association.

Assideans, Chasideans, or **Chasidim,** one of the two great sects into which, after the Babylonish captivity, the Jews were divided with regard to the observance of the law — the Chasidim accepting it in its later developments, the Zadikim professing adherence only to the law as given by Moses. From the Chasidim sprang the Pharisees, Talmudists, Rabbinists, Cabbalists, etc.

Assignates, the name of the national paper currency in the time of the French Revolution.

Assignee, a person appointed by another to transact some business, or exercise some particular privilege or power. Formerly the persons appointed under a commission of bankruptcy, to manage the estate of the bankrupt on behalf of the creditors, were so called, but now trustees, or receivers.

Assignment, in law and commerce, the act of signing over to another, rights or property which have hitherto belonged to one's self. An assignment of estate is a transfer, or making over to another, of the right a person has in any estate. In general, assignments should be recorded in the office prescribed by law, or are void as against those claiming under subsequent assignments.

Assiniboia, the smallest of the four districts into which a portion of the Northwest Territories of Canada was divided in 1881 and Sept. 1, 1905, merged into the provinces of Alberta and Saskatchewan. Its area was 89,535 square miles and pop. 67,385. Coal mines are worked and irrigation is improving the district.

Assiniboin, a tribe of North American Indians, living principally in the N. W. part of Canada.

Assouan (also ESWAN; the ancient Syene), is the southernmost city of Egypt proper, on the right bank of the Nile, and beside the first or lowest cataract. Near are the islands of Philæ and Elephantine, recently submerged almost completely by the great Nile dam. On the left bank are catacombs. There are some remains of the ancient city, as granite columns and part of a temple. In the neighborhood are the famous granite quarries from which so many of the huge obelisks and colossal statues were cut to adorn the temples and palaces of ancient Egypt. From Syene, this kind of granite came to be known as syenite. Pop. about 4,000.

Assumpsit, a verbal promise made by anyone, or which he may in justice be held to have more or less directly made.

Assyria, an ancient Semitic kingdom of Asia, the native name of which was Ashur or Asshur, and thus also called by the Hebrews. The area was fluctuating — at first small, but, though it gradually increased, it probably never exceeded about 200,000 square miles.

The Assyrians were far advanced in art and industry, and in civilization. They constructed large buildings, especially palaces, of an imposing character, the materials being burned or sun-dried brick, stone, alabaster, slabs for lining and adorning the walls internally and externally, and timber for pillars and roof. The Assyrians understood and applied the arch; constructed tunnels, aqueducts, and drains; used the pulley, the lever, and the roller; engraved gems in a highly artistic way; understood the arts of inlaying, enameling, and overlaying with metals; manufactured porcelain, transparent and colored glass, and were acquainted with the lens; and possessed vases, jars, and other dishes, bronze and ivory ornaments, bells, gold earrings and bracelets of excellent design and workmanship. They had also silver ornamental work. Their household furniture gives a high idea of their skill.

Asten, Friedrich Emil von, a German astronomer, born at Köln, 1842. His investigations have related mostly to comets.

Aster, a genus of plants, so called because the expanded flowers resemble stars. In the United States these asters grow wild in the meadows and on the prairies.

Aster, Ernst Ludwig von, a German military engineer, born in Dresden, Oct. 5, 1778. He died in Berlin, Feb. 10, 1855.

Asthma, a chronic shortness of breath, from whatever cause it may arise. Till a comparatively recent period good medical writers used the term in this wide sense, and non-professional writers and the public do so still. Asthma, or spasmodic asthma, is "a difficulty of breathing, recurring in paroxysms, after intervals of comparatively good health, and usually accompanied by fever." It is most common in persons possessing the nervous temperament.

Aston, William George, an English author, born near Londonderry, in 1841; is a standard authority on Japanese subjects.

Astor, John Jacob, an American merchant, born in Waldorf, Germany, July 17, 1763. In 1783 he came to the United States intending to engage in the selling of musical instruments; but while on the voyage was induced by a fellow passenger to engage in buying furs from the Indians and selling them to dealers. On reaching New York he entered the employ of a Quaker furrier, with whom he learned the details of the trade, and then began business on his own account. Soon afterward he became American agent for a London fur house, and, while arranging for his supplies, he opened the first wareroom for the sale of musical instruments in the United States. His success in the fur business led him to become the owner of a number of vessels, in which he shipped furs to London and brought merchandise therefrom. In furtherance of a scheme for becoming independent of the Hudson Bay Company and establishing a thoroughly American system of fur trading, he sent out expeditions to open up intercourse with the Indians on the Pacific coast, by which the present city of Astoria at the mouth of the Columbia river in Oregon was planted in 1811. An interesting outline of his projects in this connection

is given in Washington Irving's "Astoria." Mr. Astor acquired large wealth, invested heavily in real estate in New York city; and at his death left a fortune estimated at $20,000,000, and the sum of $400,000, with which to found a public library in New York city. He died March 29, 1848. See NEW YORK PUBLIC LIBRARY.

Astor, John Jacob, an American capitalist, born in Rhinebeck, N. Y., July 13, 1864; son of William, grandson of John Jacob, and cousin of William Waldorf Astor; was graduated at Harvard University in 1888; spent three years in European travel; and then became manager of the family estate. He was appointed Colonel on the staff of Gov. Morton; was commissioned a Lieutenant-Colonel of Volunteers in May, 1898, and served on inspection and staff duty in the United States and Cuba till the surrender of Santiago. He presented the United States Government with a completely equipped mountain battery which cost over $75,000, and which rendered the government valuable services during the war with Spain. He published "A Journey to Other Worlds; a Romance of the Future" (1894). He was lost on the "Titanic," April 15, 1912.

Astor, William Backhouse, an American capitalist, born in New York city, Sept. 19, 1792; eldest son of John Jacob Astor; was associated with his father in business; increased the family fortune to $45,000,000; and gave $550,000 to the Astor Library. He died in New York, Nov. 24, 1875.

Astor, William Waldorf, capitalist, born in New York city, March 31, 1848; received a private education; was admitted to the bar in 1875. He was elected to the New York Assembly in 1871, and to the Senate in 1879; was defeated for Congress in 1881, and was United States Minister to Italy in 1882–1885. On the death of his father, John Jacob Astor, in 1890, he became the head of the Astor family, and inherited a fortune said to aggregate $100,000,000. He removed to England in 1890; became the owner of the "Pall Mall Gazette" and "Pall Mall Magazine;" and was naturalized a British subject on July 1, 1899. He published "Valentino" (1885) and "Sforza" (1889), both romances.

Astor Place Riot, a fatal affray which took place in New York city, May 10, 1854, in which the participants were the partisans of the actors, Edwin Forrest and William C. Macready. Twenty-two were killed and 36 wounded.

Astræa, one of the asteroids, discovered in 1845.

Astrakhan, a Russian city, capital of the government of the same name, on an elevated island in the Volga, about 30 miles above its mouth in the Caspian, communicating with opposite banks of the river by numerous bridges. It is the chief port of the Caspian, and has regular steam communication with the principal towns on its shores. Pop. (1897) 113,001, composed of various races.

Astrakhan, a name given to sheep-skins with a curled woolly surface obtained from a variety of sheep found in Bokhara, Persia, and Syria; also a rough fabric with a pile in imitation of this.

Astral Spirits, in the demonology of the Middle Ages, spirits dwelling in the heavenly bodies. As the belief in spirits and witchcraft reached its height in the 15th century, the demonologist, or special students of this subject, systematized the strange fancies of that wild period; and astral spirits were made to occupy the first rank among evil or demoniacal spirits.

Astringents, substances which produce contraction and condensation of the muscular fiber: for instance, when applied to a bleeding wound they so contract the tissues as to stop the hemorrhage. Astringents are useful in various diseases.

Astrolabe, in its etymological sense, any instrument for taking the altitude of a star or other heavenly body, a definition which would include not merely the astrolabe properly so called, but also the sextant, the quadrant, the equatorial, the altitude and the azimuth circle, the theodolite, or any similar instrument.

Astrology, originally a discourse concerning the stars; subsequently the true science of astronomy; now the

pseudo science which pretends to foretell future events by studying the position of the stars, and ascertaining their alleged influence upon human destiny.

Astronomy, the science that treats of all the heavenly bodies, including the earth, as related to them. It is the oldest of the sciences, and the mother of those generally called exact as mathematics, geodesy and physics.

Asymptote, in geometry, a line which is continually approaching a curve, but never meets it, however far either of them may be prolonged. This may be conceived as a tangent to a curve at an infinite distance.

Atacama, the name formerly, of two provinces, (1) Chilian and (2) Bolivian; most of the latter was transferred to Chile in 1884. (1) A northern Province of Chile, with an area of 30,720 square miles, and a population (1895) of 59,713 About 1,000 silver and 250 copper mines are worked, and gold is also found in considerable quantities.

Atahualpa, the last of the Incas, succeeded his father in 1529 on the throne of Quito, whilst his brother Huascar obtained the Kingdom of Peru. They soon made war against each other, when the latter was defeated, and his kingdom fell into the hands of Atahualpa. The Spaniards, taking advantage of these internal disturbances, with Pizarro at their head, invaded Peru, and advanced to Atahualpa's camp. Here, while Pizarro's priest was telling the Incas how the Pope had given Peru to the Spaniards, fire was opened on the unsuspecting Peruvians, Atahualpa was captured, and, despite the payment of a vast ransom in gold, was executed (1533).

Atalanta, in the Greek mythology, a famous huntress of Arcadia. She was to be obtained in marriage only by him who could outstrip her in a race, the consequence of failure being death. One of her suitors obtained from Aphrodite (Venus) three golden apples, which he threw behind him, one after another, as he ran. Atalanta stopped to pick them up, and was not unwillingly defeated. There was another Atalanta belonging to Bœotia, who cannot very well be distinguished, the same stories being told about both.

Atavism, in biology, the tendency to reproduce the ancestral type in animals or plants which have become considerably modified by breeding or cultivation; the reversion of a descendant to some peculiarity of a more or less remote ancestor.

Ataxy, Ataxia, in medicine, irregularity in the animal functions, or in the symptoms of a disease. (See LOCOMOTOR ATAXY).

Atcheen (also ACHIN or ATCHIN; called by the Dutch ATJEH), until 1873 an independent State in the N. W. part of Sumatra, now a Province of the Dutch Indies, with an area of 20,471 square miles, and a population of over half a million.

During the earlier half of the 17th century Atcheen was a powerful sultanate, but under the Dutch native resistance lasted till 1906, 200 years.

Atchison, city and capital of Atchison county, Kan.; on the Missouri river and several railroads; 50 miles N. of Kansas City; has an immense trade in livestock and grains; contains large grain elevators, flour mills, and many factories; and is the seat of the State Soldiers' Orphans' Home and Midland (Luth.) and St. Benedict's colleges. Pop. (1910) 16,429.

Atchison, David Rice, an American legislator, born in Frogtown, Ky., Aug. 11, 1807; was educated for the bar, and began practicing in Missouri, in 1830. In 1843, while Judge of Circuit Court, he was appointed United States Senator to fill a vacancy. He was twice elected to the last office, and during several sessions was President pro tem. of the Senate. During Sunday, March 4, 1849, he was the legal President of the United States, as Gen. Taylor, the President-elect, was not sworn into office until the following day. The city of Atchison, Kan., was named after him. He died in Clinton county, Mo., June 26, 1886.

Ate, in Greek mythology, the goddess of hate, injustice, crime and retribution. Ate is seldom personified.

Ateles, a genus of South American monkeys, of the division with long prehensile tails, to which the name Sapajou is sometimes applied.

Atelier, in French, a workshop; a studio; more especially applied to an artist's, work-room. Ateliers Nation-

aux, or National Workshops. Since 1845, it has been the custom in France, during severe winters, or in times of distress caused by stagnation of trade, to open temporary workshops, in order to give employment to mechanics who were out of work. These workshops were called Ateliers de Charité, until 1848, when the Provisional Government of the Republic reopened a vast number of these establishments under the name of Ateliers Nationaux. They were under the control of a department called "The Committee of the Government for the Workmen;" they were all, however, badly organized, and failed calamitously. The principle on which they were conducted was, that every workman should have a living provided for him on a fixed scale. The result was, that workmen soon left private employers, and entered the national work-shops. The numbers who flocked in soon became alarming. More than 100,000 men enrolled themselves, and insubordination soon began to show itself. Danger was imminent, and the National Assembly ordered the dissolution of the ateliers nationaux, an act which became the pretext for the terrible insurrection which ensanguined Paris in June, 1848.

Athabasca, a river, lake and district of Canada. The Athabasca river rises on the E. slopes of the Rocky Mountains in the district of Alberta, flows in a N. E. direction through the district of the same name, and falls into Lake Athabasca after a course of about 600 miles. Lake Athabasca, or Lake of the Hills, is about 190 miles S. S. E. of the Great Slave Lake, with which it is connected by means of the Slave river, a continuation of the Peace. It is about 200 miles in length from E. to W., and about 35 miles wide at the broadest part, but gradually narrows to a point at either extremity. The district of Athabasca, formed 1882, on Sept. 1, 1905, was merged in the provinces of Alberta and Saskatchewan. It is intersected by the Athabasca and Peace rivers and, as yet, has a scanty population. The name is also given to a family of Indians. The area of the district was about 251,300 sq. m.

Athabascan Indians, a linguistic stock of North American Indians, extending from British North America and Alaska to Mexico, who derive their name from Lake Athabasca in British North America.

Athaliah, daughter of Ahab, King of Israel, and wife of Jehoram, King of Judah, was born about 927, and died about 878 B. C. She was a woman of abandoned character, and fond of power; who, after the death of her son Ahaziah, opened her way to the throne by the murder of every prince of the royal blood. She reigned six years; in the seventh, the high-priest Jehoiada placed Joash, the young son of Ahaziah, on the throne of his father, and Athaliah was put to death.

Athanasian Creed, a formulary or confession of faith, said to have been drawn up by Athanasius, Bishop of Alexandria, in the 4th century, to justify himself against the calumnies of his Arian enemies. That it was really composed by this father seems more than doubtful; and modern divines generally concur in the opinion of Dr. Waterland, that it was written by Hilary, Bishop of Arles, in the 5th century. It is certainly very ancient; for it had become so famous in the 6th century as to be commented upon, together with the Lord's Prayer and Apostles' Creed, by Venantius Fortunatus, Bishop of Poitiers. It was not, however, then styled the Athanasian Creed, but simply the Catholic Faith. It is supposed to have received the name of Athanasius on account of its agreeing with his doctrines, and being an excellent summary of the subjects of controversy between him and the Arians. The true key to the Athanasian Creed lies in the knowledge of the errors to which it was opposed. The Sabellians considered the Father, Son and Holy Spirit as one in person; this was "confounding the persons:" the Arians considered them as differing in essence; this was "dividing the substance;" and against these two errors was the creed originally framed. This creed was used in France about the year 850; was received in Spain about 100 years later, and in Germany about the same time. It was both said and sung in England in the 10th century; was commonly used in Italy at the expiration of that century, and at Rome a little

later. This creed is appointed to be read in the Church of England.

Athanasius, St., one of the fathers of the Christian Church, born at Alexandria about 296 A. D. He became Patriarch of Alexandria in 328, being afterward deposed and reinstated five times. He died in Alexandria, May 2, 373.

Atheism, literally, disbelief in a God, if such an attainment is possible; or, more loosely, doubt of the existence of a God; practically, a denial that anything can be known about the supernatural, supposing it to exist.

Athel, or **Æthel,** an Old English word meaning noble in blood, descent, or mind; frequently a part of Anglo-Saxon proper names.

Athenaeum, or **Atheneum,** a public place frequented by professors of the liberal arts, and where rhetoricians declaimed, and the poets read aloud their works. At Athens these assemblies first took place in the temple of Minerva, whence the name.

Athens, city and capital of Clarke county, Ga.; on the Oconee river and several railroads; 67 miles E. of Atlanta; is principally engaged in cotton-growing, trade, and manufacturing; and is the seat of the State University, State College of Agriculture, State Normal School, and Lucy Cobb and Knox institutes. Pop. (1910) 14,913.

Athens, anciently the capital of Attica and center of Greek culture, now the capital of the Kingdom of Greece. It is situated in the central plain of Attica, about 4 miles from the Saronic Gulf or Gulf of Ægina, an arm of the Ægean Sea running in between the mainland and the Peloponnesus. It is said to have been founded about 1550 B. C. by Cecrops, the mythical Pelasgian hero, and to have borne the name Cecropia until under Erechtheus it received the name of Athens in honor of Athene. It disputed with Sparta the supremacy of Greece, which was then virtually the civilized world, and was beaten in the struggle. It remained, however, the centre of art and culture until long after the rise of Rome, to which with the rest of Greece it became subject.

The modern city mostly lies northward and eastward from the Acropolis, and consists mainly of straight and well built streets. Among the principal buildings are the royal palace, a stately building with a façade of Pentelic marble (completed in 1843), the university, the academy, public library, theater, and observatory. The university was opened in 1836, and has 1,400 students. There are valuable museums, in particular the National Museum, and that in the Polytechnic School, which embraces the Schliemann collection, etc. These are constantly being added to by excavations. There are four foreign archæological schools or institutes, the French, German, American, and British. Tramways have been made in the principal streets, and the city is connected by railway with its port, the Piræus. Pop. 111,486.

Athens, American School at, an institution for classical study, founded in Athens, Greece, in 1882.

Atherstone, Edwin, an English poet, born in Nottingham, England, about 1788; died Jan. 29, 1872.

Atherton, George William, an American educator, born in Boxford, Mass., June 20, 1837; was brought up in a cotton mill, and afterward on a farm; worked his way through Phillips Exeter Academy and Yale College; was Professor of Political Economy and Constitutional Law in Rutgers College, N. J., in 1869–1882; and became President of the Pennsylvania State College in 1882. He died July 24, 1906.

Atherton, Gertrude Franklin, an American author, born in San Francisco, Cal.; daughter of Thomas L. Horn and Gertrude Franklin, and great-grandniece of Benjamin Franklin; was educated in California and Kentucky, and married the late George H. B. Atherton. She began her literary work while living in San Francisco, in 1878, and has made a specialty of describing Spanish life in California as it was previous to 1846.

Athletes, combatants who took part in the public games of Greece. The profession was an honorable one; tests of birth, position, and character were imposed, and crowns, statues, special privileges, and pensions were among the rewards of success. In

1896, the ancient Olympic games were revived at Athens (the 776th Olympiad) under the personal patronage of the King of Greece; in 1900 they were held at the Paris Exposition; in 1904 at the St. Louis Exposition; in 1906 at Athens; in 1908 at London.

Athos, Mount, or **Hagion-Oros, or Monte-Santo,** a famous mountain of Turkey in Europe, on a peninsula projecting into the Ægean Sea, between the Gulfs of Contesa and Monte-Santo. In modern times, Athos has been occupied for an extended period by a number of monks of the Greek Church, who live in a sort of fortified monasteries, in number about 20, of different degrees of magnitude and importance. These, with the farms or metochis attached to them, occupy the whole peninsula; hence it has derived its modern name of Monte-Santo.

Atkinson, Edward, an American political economist, born in Brookline, Mass., Feb. 10, 1827; was educated in private schools and at Dartmouth College. He has become widely known by his papers and pamphlets on trade competition, banking, railroading, fire prevention, the money question, etc. He died Dec. 11, 1905.

Atkinson, George Francis, an American botanist, born in Raisinville, Mich., Jan. 26, 1854; was graduated at Cornell University in 1885; Associate Professor of Entomology and General Zoology in the University of North Carolina, in 1886–1888; Professor of Zoology and Botany in the University of South Carolina; and Botanist of the State Experiment Station in 1888–1889; Professor of Biology in the Alabama Polytechnic Institute, and Biologist of the Experiment Station in 1889–1892; became Professor of Botany in Cornell University, and Botanist of the Experiment Station there in 1896. He is a member of numerous scientific societies, and author of "Biology of Ferns," "Elementary Botany," and many technical papers.

Atlanta, city and capital of the State of Georgia and of Fulton county; on the Atlanta and West Point, the Central of Georgia, the Georgia, the Seaboard Air Line, the Southern, and the Western and Atlantic railroads; 171 miles N. by W. of Augusta. The city is not only the largest in the State, but, commercially and historically, is one of the most important in the South. Bank clearings total over $131,000,000 a year. The chief building is the magnificent capitol completed March, 1891.

After being besieged by the Federal army, under General Sherman, and bombarded for 40 days, it was captured Sept. 2, 1864. General Sherman, before starting on his march to the sea, burned the city. After the war, the city recuperated more rapidly than any other in the South. In 1881 an exposition of the Cotton States and in 1895 a great Cotton States and International Exposition were held here, the last in Piedmont Park, in which the United States and many of the Northern States, besides European and South American countries, took part. Pop. (1900) 89,872; (1910) 154,839.

Atlantic City, a city and widely noted health and pleasure resort, in Atlantic county, N. J.; on Absecon Beach island; 60 miles S. E. of Philadelphia. It is a city of hotels, shops, and cottages, with superior railroad facilities, and has the largest patronage of any seaside resort in the country. Its famous board-walk is over 5 miles long and 20–60 feet wide. Permanent pop. (1910) 44,461.

Atlantic Ocean, the name given to the vast expanse of sea lying between the W. coasts of Europe and Africa, and the E. coasts of North and South America, and extending from the Arctic to the Antarctic Seas. Its greatest breadth is between the W. coast of Northern Africa and the E. coast of Florida, 4,150 miles. Its least breadth, between Norway and Greenland, is about 930 miles.

The great currents of the Atlantic are the Gulf Stream, the equatorial current — which may be divided into the main equatorial current, the N. equatorial current, and the S. equatorial currents, the North African and Guinea current, the South connecting current, the Southern Atlantic current, Cape Horn current, Rennel current, and the Arctic current.

The Gulf Stream is a continuation of the main equatorial current, and partly of the N. equatorial current,

both W. drift currents produced by the trade winds. The former passes across the Atlantic to the American coast, upon which it strikes from Cape St. Roque to the Antilles. On being turned by the coast it runs along it at a rate of 30 to 50 miles per day, and sometimes at a higher speed, till it enters the Gulf of Mexico, from which having previously received part of the waters of the N. equatorial current, it issues between Florida and Cuba under the name of the Gulf stream. It afterward flows nearly parallel to the coast of the United States, separated from it by a belt of cold water. Off Cape Hatteras it spreads into an expanding channel, reaching a breadth of 167 miles, and consisting of three warm sections with two cold belts interposed. On passing Sandy Hook it turns E. and continues to be recognizable, partly by a blue color derived from the silt of the Mississippi, till about lon. 30° W., where, with a greatly diminished temperature, it is found flowing nearly due E.

Atlantic Telegraph, lines laid on the bed of the Atlantic Ocean. The union of the Old and New Worlds by means of the electric telegraph, probably the boldest feat of electric engineering ever projected, was first suggested by Prof. Morse in 1843. When Lieut. Maury of the United States navy discovered that between Ireland and Newfoundland the bed of the ocean was nearly level and covered with soft ooze, and Cyrus W. Field and others had thoroughly discussed the practical methods, a company was formed for the purpose, in 1856, to which the Governments of Great Britain and the United States gave liberal guarantees. This company, after a fruitless attempt to lay an electric cable in 1857, finally succeeded in 1858.

The result was not encouraging. The current obtained through the wire was so weak that a congratulatory message from the Queen to the President, consisting of 90 words, took 67 minutes to transmit. After a few more messages, the cable became useless. In consequence of this failure, it was not until 1865 that capital was found to make another attempt. The paying-out journey was commenced at Valentia, but when the vessel was 1,064 miles from that port, the cable broke from an accidental strain. After a fruitless effort to fish up the broken cable from the bottom, it was abandoned for the season. In 1866 another line, so modified in construction as to be both lighter and stronger than the previous one, was successfully laid by the "Great Eastern." The 1865 cable was then, by means of the same vessel, grappled for, and brought up from a depth of two miles, spliced, and completed to Trinity Bay.

The practicability of laying an electric wire across the Atlantic being thus demonstrated, many lines have been projected, and several of them carried out. Marconi's wireless telegraph system has introduced a new era in transatlantic telegraphy, but has not, so far, been developed sufficiently to interfere with the business of the cable companies.

Atlantides, a name given to the Pleiades, which were fabled to be the seven daughters of Atlas or of his brother Hesperus.

Atlantis, or **Atlantica,** an island, said by Plato and others to have once existed in the ocean immediately beyond the Straits of Gades; that is, in what is now called the Atlantic Ocean, a short distance W. of the Straits of Gibraltar. Atlantis is represented as having ultimately sunk beneath the waves, leaving only isolated rocks and shoals in its place. Geologists have discovered that the coast-line of Western Europe did once run farther in the direction of America than now; but its submergence seems to have taken place long before historic times.

Atlas, in Greek mythology, the name of a Titan whom Zeus condemned to bear the vault of heaven. The same name is given to a collection of maps and charts, and was first used by Gerard Mercator in the 16th century, the figure of Atlas bearing the globe being given on the title-pages of such works.

Atlee, Washington Lemuel, an American surgeon, born in Lancaster, Pa., Feb. 22, 1808; became noted as a pioneer in ovariotomy and the removal of uterine fibroid tumors. He died Sept. 6, 1878.

Atmometer, an instrument invented by Sir John Leslie for measuring the quantity of moisture exhaled in a given time from any humid surface.

Atmosphere, literally, the air surrounding our planet, and which, as the etymology implies, is, speaking broadly, a "sphere" (not, of course, a solid, but a hollow one). With strict accuracy, it is a hollow spheroid. Its exact height is unknown. At 2.7 miles above the surface of the earth, half its density is gone, and the remainder is again halved for every further rise of 2.7 miles. Some small density would remain at 45 miles high. At 80 miles, this would have all but disappeared. But from sundry observations, made at Rio Janeiro and elsewhere, on the twilight arc, M. Liais infers that the extreme limit of the atmosphere is between 198 and 212 miles. In the lower strata of the atmosphere, the temperature falls at least a degree for every 352 feet of ascent; hence, even in the tropics, mountains of any considerable elevation are snow-capped. The atmosphere appears to us blue, because, absorbing the red and yellow solar rays, it reflects the blue ones. It revolves with the earth, but being extremely mobile, winds are generated in it, so that it is rarely long at rest. Evaporation, continually at work, sends into it quantities of water in a gaseous state; clouds are formed, and in due time descend in rain. The atmosphere always contains free electricity, sometimes positive and sometimes negative. There appears to be no atmosphere around the moon; but the case seems different with the sun, Venus, Mars, Jupiter, and Saturn.

Atmospheric Pressure, the pressure exerted by the atmosphere, not merely downward, but in every direction. It amounts to 14.7 pounds of weight on each square inch, which is often called in round numbers 15. On a square foot it is =2,160 pounds, or nearly a ton. It would act upon our bodies with crushing effect were it not that the pressure, operating in all directions, produces an equilibrium. If any gas or liquid press upon a surface with a force of 15 pounds on a square inch, it is generally described as having a pressure of one atmosphere; if 60 pounds, of four atmospheres; if 120 pounds, of eight atmospheres, and so on.

Atmospheric Railway. (See Pneumatic Dispatch).

Atomic Theory, a theory as to the existence and properties of atoms; especially, in chemistry, the theory accounting for the fact that in compound bodies the elements combine in certain constant proportions, by assuming that all bodies are composed of ultimate atoms, the weight of which is different in different kinds of matter. It is associated with the name of Dalton, who systematized and extended the imperfect results of his predecessors. On its practical side the atomic theory asserts three Laws of Combining Proportions: (1) The Law of Constant or Definite Proportions, teaching that in every chemical compound the nature and proportion of the constituent elements are definite and invariable; (2) The Law of Combination in Multiple Proportions, according to which the several proportions in which one element unites with another, invariably bear towards each other a simple relation; (3) The Law of Combination in Reciprocal Proportions, that the proportions in which two elements combine with a third also represent the proportions in which, or in some simple multiple of which, they will themselves combine. Without expressly adopting the atomic theory, chemists have followed Dalton in the use of the terms atom and atomic weight, yet in using the word atom it should be held in mind that it merely denotes the proportions in which elements unite.

Atonement, in theology, the sacrificial offering made by Christ in expiation of the sins, according to the Calvinists, of the elect only; according to the Arminians, of the whole human race.

Atrato, a river of Colombia, interesting because it has repeatedly been made to bear a part in schemes for a ship-canal across the Isthmus of Panama. Rising on the Western Cordillera at an altitude of 10,560 feet, above sea-level, it runs 305 miles northward through low, swampy country, and falls by several mouths, interrupted by bars, into the Gulf of Darien. It is navigable by steamers for fully 250

miles, being 750 to 1,000 feet wide, and 8 to 70 feet deep. A route, surveyed by the United States Government in 1871, proposed to connect the Atrato and the Jurador, flowing into the Pacific, by a canal 48 miles long. At the Paris International Congress (1879), for deciding the best route for the interoceanic canal, that route was, with various others, discussed and rejected in favor of De Lesseps' line from Limon to Panama. Gold-dust is found in and about the Atrato.

Atrium, in ancient times, the hall or principal room in an ancient Roman house. In a large house the rooms opened into it from all sides, and were lighted from it.

Atrophy, a wasting of the flesh due to some interference with the nutritive processes. It may arise from a variety of causes, such as permanent, oppressive and exhausting passions, organic disease, a want of proper food or of pure air, suppurations in important organs, copious evacuations of blood, saliva, semen, etc., and it is also sometimes produced by poisons, for example, arsenic, mercury, lead, in miners, painters, gilders, etc.

Atropin, or **Atropine,** a crystalline alkaloid obtained from the deadly nightshade (atropa belladonna). It is very poisonous and produces persistent dilation of the pupil.

Attaché, a military, naval or subordinate member of the diplomatic service attached to an embassy or legation.

Attachment, in law, the taking into the custody of the law the person or property of one already before the court, or of one whom it is sought to bring before it.

Attack, the opening act of hostility by a force seeking to dislodge an enemy from its position.

Attainder, the legal consequences of a sentence of death or outlawry pronounced against a person for treason or felony, the person being said to be attainted.

In the United States, the Federal Constitution declares that "No bill of attainder shall be passed, and no attainder of treason, in consequence of a judicial sentence, shall work corruption of blood or forfeiture except during the life of the person attainted."

Attâr, Ferid eddin, a celebrated Persian poet, born near Nishapur in 1119; died about 1229 (?).

Attar, or Otto, of Roses (oil of roses), an essential oil obtained from the petals of three species of roses, viz.: rosa centifolia, moschata and damascena.

Atterbury, Francis, an English prelate, born March 6, 1662, and educated at Westminster and Oxford. He died Feb. 15, 1732, and his body was interred in Westminster Abbey.

Attic, pertaining to Attica or to Athens. Pure; elegant; classical; poignant; characterized by keenness of intellect, delicacy of wit, purity of elegance, soundness of judgment and most expressive brevity; as, the Attic Muse. Attic dialect is that dialect of the Greek language which was spoken in Attica. It was the most refined and polished of all the dialects of ancient Greece.

Attica, a State of ancient Greece, the capital of which, Athens, was once the first city in the world.

Atticus, Titus Pomponius, a noble Roman, the contemporary of Cicero and Cæsar.

Attila, the famous leader of the Huns, was the son of Mundzuk, and the successor, in conjunction with his brother Bleda, of his uncle Rhuas. The rule of the two leaders extended over a great part of Northern Asia and Europe, and they threatened the Eastern Empire, and twice compelled the weak Theodosius II. to purchase an inglorious peace. Attila caused his brother Bleda to be murdered (444), and in a short time extended his dominion over all the peoples of Germany and exacted tribute from the Eastern and Western emperors. He invaded Italy and conquered and destroyed Aquileia, Padua, Vicenza, Verona, and Bergamo, laid waste the plains of Lombardy, and was marching on Rome when Pope Leo I. went with the Roman ambassadors to his camp and succeeded in obtaining a peace. Attila went back to Hungary, and died on the night of his marriage with Hilda or Ildico (453), either from the bursting of a blood vessel or by her hand.

Attock, a town and fort of the Punjab, on the left or E. bank of the

Indus. The great railway bridge across the Indus here was opened in 1883. It has five arches 130 feet high, and renders continuous the railway connection between Calcutta and Peshawur (1,600 miles).

Attorney, a person appointed to do something for and in the stead and name of another. An attorney at law is a person qualified to appear for another before a court of law to prosecute or defend any action on behalf of his client.

Attorney-General. In the United States the Department of Justice is presided over by the Attorney-General, whose duty it is to furnish all legal advice needed by Federal authorities, and conduct all litigation in which the United States is concerned. The States have similar officers.

Attraction, in natural philosophy, a force in virtue of which the material particles of all bodies tend necessarily to approach each other.

Capillary attraction, meaning the attraction excited by a hair-like tube on a liquid within it, is, properly speaking, a variety of adhesion.

In magnetism, the power excited by a magnet or loadstone of drawing and attaching iron to itself.

In electricity, the power possessed by an electrified body of drawing certain other bodies to itself.

Atwater, Lyman Hotchkiss, an American theologian, born in Hampden, Conn., Feb. 23, 1813; died in Princeton, N. J., Feb. 17, 1883.

Atwater, Wilber Olin, an American chemist, born in Johnsburg, N. Y., May 3, 1844; was graduated at Wesleyan University in 1865; made a special study of chemistry in the Sheffield Scientific School of Yale and the Universities of Leipsic and Berlin; became Professor of Chemistry in East Tennessee University in 1873; was director of the Connecticut Agricultural Experiment Station in 1875–1877, and was appointed director of the Storrs (Conn.) Experiment Station in 1887. He was connected for several years with the United States Department of Agriculture; published many papers on chemical and allied subjects; and, after 1894, gave much attention to nutrition investigations. He died in 1907.

Atwill, Edward Robert, an American clergyman, born in Red Hook, N. Y., Feb. 18, 1840; was graduated at Columbia College in 1862, and at the General Theological Seminary 1864; consecrated the first Protestant Episcopal bishop of West Missouri, Oct. 14, 1890.

Atwood, Isaac Morgan, an American educator, born in Pembroke, N. Y., March 24, 1838; was ordained in the Universalist Church in 1861; held several pastorates; edited "The Christian Leader" 1867–1873; became an associate editor of the "Universalist Leader;" and was chosen president of the Canton (N. Y.) Theological Seminary in 1879.

Atwood, Melville, an Anglo-American geologist, born in Prescott Hall, England, July 31, 1812; studied lithology, microscopy, and geology early in life, and engaged in gold and diamond mining in Brazil. In 1843 he made a discovery that greatly enhanced the value of zinc ore. After coming to the United States, in 1852, he invented the blanket system of amalgamation. He also established the value of the famous Comstock silver lode, by an assay of minerals in that region. He died in Berkeley, Cal., April 25, 1898.

Auber, Daniel François Esprit, a French operatic composer, born Jan. 29, 1782, at Caen, in Normandy; was originally intended for a mercantile career, but devoted himself to music, studying under Cherubini. He died in Paris, May 13, 1871.

Auberlen, Karl August, a German Protestant theologian, born at Fellbach, Würtemberg, Nov. 19, 1824; died at Basel, May 2, 1864.

Aubert, Joachim Marie Jean Jacques Alexandre Jules, a French general and military writer; born in 1804; prominent in several campaigns, and was made commander of the Legion of Honor in 1860. He is best known to the public as a journalist and historical writer. He died in 1890.

Aubertin, Charles, a French scholar, born in St. Didier, Dec. 24, 1825.

Aublet, Albert, a French painter, born in Paris; studied historical painting under Gerome; won a first-

class medal in the Paris Exposition of 1889, and the Legion of Honor in 1890.

Aubry de Montdidier, a French soldier, supposed to have been murdered by his comrade, Richard de Macaire, in 1371. His dog peristed in pursuing and harassing Macaire, and this coming to the ears of King Charles V., he ordered a fight between them. The dog was victorious, and has since been famous in story as the "Dog of Montargis;" from the place of the fight.

Auburn, city and capital of Androscoggin county, Me.; on the Androscoggin river and the Maine Central railroad; 35 miles N. of Portland; is chiefly engaged in the manufacture of boots, shoes, cotton goods, furniture, and farm implements; has many points of local interest, including a 60-foot fall of the river. Pop. (1910) 15,064.

Auburn, city and capital of Cayuga county, N. Y.; on Central & Hudson River and the Lehigh Valley railroads. It contains a State armory, Auburn Theological Seminary (Presb.), a State prison on the "silent" system, a State Insane asylum, a statue of William H. Seward, and important industrial plants. Pop. (1910) 34,668.

Auchmuty, Richard Tylden, an American philanthropist, born in New York city in 1831; practiced architecture for many years; with his wife founded the New York Trade Schools, at a cost of $250,000. J. Pierpont Morgan, in 1892, gave it an endowment of $500,000. Died 1893.

Auckland, a town in New Zealand, in the North Island, founded in 1840, and situated on Waitemata harbor, one of the finest harbors of New Zealand, where the island is only 6 miles across, there being another harbor (Manukau) on the opposite side of the isthmus. It was formerly the capital of the colony. Pop. (1901), including suburbs, 67,226.

Auckland Islands, a group lying in the Pacific Ocean to the S. of New Zealand. The largest of these islands is about 30 miles long by 15 broad, and is covered with dense vegetation. They are almost entirely uninhabited, belong to the British and are a station for whaling ships.

Auction, the public disposal of goods to the highest bidder.

Audiometer, or **Audimeter,** an instrument devised by Prof. Hughes, the inventor of the microphone. Originally its object was to measure with precision the sense of hearing.

Audiphone, an invention to assist the hearing of deaf persons in whom the auditory nerve is not entirely destroyed.

Audit, an examination into accounts or dealings with money or property, along with vouchers or other documents connected therewith, especially by proper officers, or persons appointed for the purpose.

Audsley, George Ashdown, a Scottish-American architect, born in Elgin, Scotland, Sept. 6, 1838; established himself in the United States in 1892, and subsequently became prominent both as an architect and author.

Audubon, John James, an American naturalist of French extraction, born near New Orleans, May 4, 1780; was educated in France, and studied painting under David. In 1798 he settled in Pennsylvania, but, having a great love for ornithology, he set out in 1810 with his wife and child, descended the Ohio, and for many years roamed the forests in every direction, drawing the birds which he shot. In 1826 he went to England, exhibited his drawings in Liverpool, Manchester and Edinburgh, and finally published them in an unrivaled work of double-folio size, with 435 colored plates of birds the size of life ("The Birds of America," 4 vols., 1827–1839), with an accompanying text ("Ornithological Biography," 5 vols., 8 vo., partly written by Prof. Macgillivray). On his final return to the United States he labored with Dr. Bachman on an illustrated work entitled "The Quadrupeds of America" (1843–1850, 3 vols.). He died in New York city, June 27, 1851.

Auerbach, Berthold, a German novelist, born at Nordstetten, Würtemberg, Feb. 28, 1812. He died at Cannes, France, Feb. 8, 1882.

Auersperg, Anton Alexander, Graf von, a German poet, born at Laibach, April 11, 1806. He died at Gratz, Sept. 12, 1876. His poems are very popular in Germany.

Auerstadt, a village in the Prussian Province of Saxony, 10 miles W. of Naumburg. It is famous for the great battle which took place there Oct. 14, 1806, between the French under Davoust, and the Prussian army under Duke Charles of Brunswick, which ended in a great victory for the former. The Prussians, who numbered fully 48,000, left nearly half of their men dead or wounded on the ground, while the French (30,000) escaped with a loss of only 7,000. Napoleon, who had, on the same day, defeated the main army of Frederick William III. at Jena, made Davoust Duke of Auerstadt.

Augeas, a fabulous king of Elis, in Greece, whose stable contained 3,000 oxen, and had not been cleaned for 30 years. Hercules undertook to clear away the filth in one day in return for a 10th part of the cattle, and executed the task by turning the river Alpheus through it. Augeas, having broken the bargain, was deposed and slain by Hercules.

Augsburg, Confession of, name given to the celebrated declaration of faith, compiled by Melanchthon, revised by Luther and other reformers, and read before the Diet of Augsburg, June 25, 1530. It consisted of 28 articles, seven of which refuted Roman Catholic errors, and the remaining 21 set forth the Lutheran creed. Soon after its promulgation, the last hope of reforming the Roman Catholic Church was abandoned, and complete severance followed. An answer by the Roman Catholics was read Aug. 3, 1530; when the Diet declared that it had been refuted. Melanchthon then drew up another confession. The first is called the unaltered, and the second, the altered form.

Augsburg, Diet of, the most celebrated of the numerous diets held at Augsburg. Pope Clement VII. refusing to call a general council for the settlement of all religious disputes, the Emperor Charles V. summoned one to meet at Augsburg, June 20, 1530. On the 25th the famous "Confession" was read; later an answer was made by the Catholics, whereupon the Protestants were ordered to conform in all points to the Church of Rome, Charles V. giving them till April 15, 1531, to reunite with the Mother Church. On Nov. 22, the emperor announced his intention to execute the edict of Worms, made severe enactments against the Protestants, and reconstituted the Imperial Chamber. The Protestants put in a counter declaration, and the Diet closed.

Augsburg, League of, a league concluded at Augsburg, July 9, 1686, for the maintenance of the treaties of Münster and Nimeguen, and the truce of Ratisbon, and to resist the encroachments of France. The contracting parties were the Emperor Leopold I., the Kings of Spain and Sweden, the Electors of Saxony and Bavaria, and the circles of Suabia, Franconia, Upper Saxony and Bavaria.

Augur, Christopher Colon, an American military officer; born in New York, July 10, 1821; was graduated at the United States Military Academy in 1843; became Major of the 13th United States Infantry in 1861; Colonel of the 12th Infantry in 1866; Brigadier-General, United States army, March 4, 1869; Major-General in the volunteer service in 1862; mustered out of that service in 1866; and was retired in the regular army, July 16, 1885. He commanded a division in the battle of Cedar Mountain, being severely wounded. He died in Washington, D. C., Jan. 16, 1898.

Augurs, a college of diviners in ancient Rome, who predicted future events and read the will of the gods from the occurrence of certain signs, connected with thunder and lightning: the flight and cries of birds; the feeding of the sacred chickens; the action of certain quadrupeds or serpents; accidents, such as spilling the salt, etc. The answers of the augurs and the signs were called auguries; bird-predictions were auspices. Nothing was undertaken without the augurs, and by the words "alio die" ("meet on another day"), they could dissolve the assembly of the people and annul decrees passed at the meeting.

August, the eighth month of our year, named by the Roman Emperor Augustus, after himself, being associated with several of his victories and other fortunate events. Before this it was called Sextilis or the sixth month

(counting from March). July had been named for Julius Cæsar and the Senate to please Augustus decreed that August should have equal length, taking a day from February.

Augusta, city and capital of Richmond county, Ga., on the Savannah river and the Southern and other railroads; 120 miles N. W. of Savannah. The city is noted for its diversified manufactures, which have an annual value of over $10,000,000, and its large trade in cotton, lumber, fruit, and vegetables. Pop. (1910) 41,040.

Augusta, city and capital of the State of Maine and of Kennebec county; on the Kennebec river and the Maine Central railroad; 63 miles N. E. of Portland. The city has abundant water power for numerous factories, and besides several State buildings, has a National Arsenal and (4 miles out) a National Soldiers' Home. Pop. (1910) 13,211.

Augusta, Victoria, Duchess of Schleswig-Holstein-Sonderburg-Augustenburg, born Oct. 22, 1858; daughter of the late Duke Friedrich; married Prince Friedrich Wilhelm, afterward Wilhelm II., Feb. 27, 1881; became Empress of Germany and Queen of Prussia on the accession of her husband to the throne in 1888.

Augustine, or **Austin, St.,** the Apostle of the English, flourished at the close of the 6th century.

Augustulus, Romulus, the last of the Western Roman emperors; reigned for one year (475–476), when he was overthrown by Odoacer and banished.

Augustus, Caius Julius Cæsar Octavianus, originally called CAIUS OCTAVIUS, the celebrated Roman emperor, was the son of Caius Octavius and Atia, a daughter of Julia, the sister of Julius Cæsar. He was born 63 B. C., and died A. D. 14. He was the first emperor of Rome in the full sense of exercising imperial power as a recognized monarch, and he was also one of the greatest, if not the greatest of the emperors, a liberal patron of art, and broad and sagacious in the exercise of his authority. He is said to have "found Rome of brick and left it of marble."

Auk, the name given to several sea birds, especially the great and the little auk. The great auk is from two to two and a half feet high, with short wings almost useless for flight. In the water, however, it makes way with astonishing rapidity. It is essentially a northern bird. It seems to be rapidly verging to extinction.

Aulic, an epithet given to a council (the Reichshofrath) in the old German Empire, one of the two supreme courts of the German Empire, the other being the court of the imperial chamber (Reichskammergericht). It had not only concurrent jurisdiction with the latter court, but in many cases exclusive jurisdiction, in all feudal processes, and in criminal affairs, over the immediate feudatories of the emperor and in affairs which concerned the Imperial Government. The title is now applied in Germany in a general sense to the chief council of any department, political, administrative, judicial or military.

Aurelian, Lucius Domitius Aurelianus, an Emperor of Rome, distinguished for his military abilities and stern severity of character; was the son of a peasant of Illyricum. He was born about 212 A. D., and lost his life, A. D. 275, by assassination, the result of a conspiracy excited by a secretary whom he intended to call to account for peculation.

Aureola, or **Aureole,** in paintings, an illumination surrounding a holy person, as Christ, a saint, or a martyr, intended to represent a luminous cloud or haze emanating from him.

Aureus, the first gold coin which was coined at Rome, 207 B. C. Its value varied at different times, from about $3 to $6.

Auricles of the Heart, those two of the four cavities of the heart which are much smaller than the others, and each of which, moreover, has falling down upon its external face a flattened appendage, like the ear of a dog, from which the name of the whole structure is derived.

Auricula, a beautiful garden flower. It is a native of the Alpine districts of Italy, Switzerland, and Germany, and occurs also in Astrakhan.

Aurifaber, the Latinized name of JOHANN GOLDSCHMIDT, one of Lu-

ther's companions, born in 1519, became pastor at Erfurt in 1566; died there in 1579. He collected the unpublished manuscripts of Luther.

Auriga, in astronomy, the Wagoner, a constellation of the northern hemisphere containing 68 stars, including Capella of the first magnitude.

Auringer, Obadiah Cyrus, an American poet, born at Glens Falls, N. Y., June 4, 1849.

Aurora, a city in Kane county, Ill.; on the Fox river and the Chicago & Northwestern and other railroads; 38 miles W. of Chicago; is the farming and manufacturing center of Kane and adjoining counties; has large cotton and woollen mills and locomotive and car works; and claims the first electric lighting system in the United States. Pop. (1910) 29,807.

Aurora Borealis, a luminous meteoric phenomenon appearing in the N. most frequently in high latitudes, the corresponding phenomenon in the southern hemisphere being called aurora australis, and both being also called polar light, streamers, etc.

Aurungzebe, known as the Great Mogul, or Emperor of Hindustan, born Oct. 22, 1618. He was the son of Shah of Jehan, and properly named Mohammed, but received from his grandfather that of Aurungzebe (Ornament of the Throne), by which he is known to history. Aurungzebe died at Ahmednagar, in the Deccan, Feb. 21, 1707, master of 21 provinces, and of a revenue of about $200,000,000.

Auscultation, the art of discovering diseases within the body by means of the sense of hearing. Being carried out most efficiently by means of an instrument called a stethoscope, it is often called mediate auscultation.

Auspices, among the Romans, omens, especially those drawn from the flight or other movements of birds, or, less properly, from the occurrence of lightning or thunder in particular parts of the sky. These were supposed to be indications of the will of heaven, and to reveal futurity.

Austen, Jane, an English novelist, born at Steventon, Hampshire, of which parish her father was the rector, Dec. 16, 1775; died, July 18, 1817.

Austerlitz, a small town of Moravia, on the Littawa, 13 miles S. E. of Brünn. In the vicinity, on Dec. 2, 1805, was fought the famous battle that bears its name, between the French army of 80,000 men, commanded by Napoleon, and the combined Russian and Austrian armies, numbering 84,000, under their respective Emperors; in which the former achieved a signal victory.

Austin, capital of the State of Texas, and county-seat of Travis co.; on the Colorado river; 230 miles N. W. of Galveston. It derives large power for manufacturing from the river. Besides the State Capitol, the city contains the main building of the State University, four State asylums, the State Confederate Home. The Capitol, which cost $3,000,000, is in a square of 10 acres. The recent construction of a dam in the river has given the city a large and beautiful stretch of water, known as Lake McDonald. The city was originally known as Waterloo; was named after Stephen F. Austin; became the capital of the Republic of Texas in 1839; and the capital of the State in 1872. Pop. (1900) 22,258; (1910) 29,860.

Austin, Alfred, an English poet, critic, and journalist, born at Headingly, near Leeds, May 30, 1835. He graduated from the University of London in 1853, was called to the bar in 1857, and was editor of the "National Review," 1883–1893. He was appointed poet laureate of England in 1896.

Austin, George Lowell, an American physician and writer, born in Massachusetts in 1849; died in 1893.

Austin, Henry, an American lawyer and legal writer, born in Boston, Mass., Dec. 21, 1858; wrote several valuable law books.

Austin, Jane Goodwin, an American novelist, born in Worcester, Mass., Feb. 25, 1831; was educated and thenceforth lived in Boston. She died in Boston, March 30, 1894.

Austin, John, an English writer on jurisprudence, born in Creeling Mill, Suffolk, March 3, 1790. From 1826 to 1835 he filled the chair of Jurisprudence at London University. Died in Weybridge, Surrey, in Decem-

ber, 1859. His wife, SARAH, one of the Taylors of Norwich, born in 1793, produced translations of German works, and other books bearing on Germany or its literature. She died in Weybridge, Surrey, Aug. 8, 1867. Her daughter, LADY DUFF GORDON, translated several German works.

Austin, Stephen Fuller, an American pioneer, born in Austinville, Va., Nov. 31, 1793; a son of Moses Austin, the real founder of the State of Texas, who, about 1820, obtained permission from the Mexican Government to establish an American colony in Texas, but died before his plans were accomplished. Stephen took up the work unfinished by his father, and located a thrifty colony on the site of the present city of Austin, in 1821. Subsequently he was a commissioner to urge the admission of Texas into the Mexican Union; was imprisoned there for several months; and, in 1835 was a commissioner to the United States Government to secure the recognition of Texas as an independent State. He died in Columbia, Tex., Dec. 25, 1836.

Australasia, a division of the globe usually regarded as comprehending the islands of Australia, Tasmania, New Zealand, New Caledonia, the New Hebrides, the Solomon Islands, New Ireland, New Britain, the Admiralty Islands, New Guinea, and the Arru Islands, besides numerous other islands and island groups; area, 3,259,199 square miles, pop. about five millions. It forms one of three portions into which some geographers have divided Oceania, the other two being Malaysia and Polynesia.

Australia (older name, New Holland), the largest island in the world, a sea-girt continent, lying between the Indian and Pacific Oceans, S. E. of Asia; between lat. 10° 39′ and 39° 11′ S.; long. 113° 5′ and 153° 16′ E.; greatest length, from W. to E., 2,400 miles; greatest breadth from N. to S., 1,700 to 1,900 miles. It is separated from New Guinea on the N. by Torres Strait, from Tasmania on the S. by Bass Strait. It is divided into two unequal parts by the Tropic of Capricorn, and is occupied by what are known as the original states of the Commonwealth of Australia.

The area and the population (exclusive of aborigines) of the different States composing the Commonwealth of Australia in 1901 were as follows:

Original States.	Area Sq. M.	Pop.
New South Wales	310,367	1,362,232
Victoria	87,884	1,199,692
Queensland	668,497	502,892
South Australia	903,690	354,001
Western Australia	975,920	182,553
Tasmania	26,215	172,000
Total	2,972,573	3,773,370

Sydney, the capital of New South Wales, Melbourne, the capital of Victoria, Adelaide, the capital of South Australia, and Brisbane, the capital of Queensland, are the chief towns.

Australia is a region containing a vast quantity of mineral wealth. Foremost come its rich and extensive deposits of gold, which, since the precious metal was first discovered, in 1851, have produced a total of more than $1,350,000,000. The greatest quantity has been obtained in Victoria, but New South Wales and Queensland have also yielded a considerable amount. Probably there are rich stores of gold as yet undiscovered. Australia also possesses silver, copper, tin, lead, zinc, antimony, mercury, plumbago, etc., in abundance, besides coal (now worked to a considerable extent in New South Wales) and iron. Various precious stones are found, as the garnet, ruby, topaz, sapphire, and even the diamond. Of building stone there are granite, limestone, marble, and sandstone.

The Australian flora presents peculiarities which mark it off by itself in a very decided manner. Many of its most striking features have an unmistakable relation to the general dryness of the climate. The trees and bushes have, for the most part, a scanty foliage, presenting little surface for evaporation, or thick leathery leaves well fitted to retain moisture.

The Australian fauna is almost unique in its character. Its great feature is the nearly total absence of all the forms of mammalia which abound in the rest of the world, their place being supplied by a great variety of marsupials — these animals

being nowhere else found, except in the opossums of America. There are about 30 kinds of marsupials (of which the kangaroo, wombat, bandicoot, and phalangers or opossums, are the best known varieties), over 20 kinds of bats, a wild dog (the dingo), and a number of rats and mice. Two extraordinary animals, the platypus, or water mole of the colonist, and the porcupine ant-eater constitute the lowest order of mammals, and are confined to Australia. Their young are produced from eggs. Australia now possesses a large stock of domestic animals which thrive remarkably well.

The birds of Australia are numerous and in great variety, all the more important orders and families of class Aves being represented.

The natives belong to the Australian negro stock, and are sometimes considered the lowest as regards intelligence in the whole human family, though this is doubtful. They are believed to number about 60,000, exclusive of those in the unexplored parts. They are of a dark-brown or black color, with jet-black curly, but not woolly hair, of medium size, but inferior muscular development. In the settled parts of the continent they are inoffensive, and rapidly dying out. They have no fixed habitations; in the summer they live almost entirely in the open air, and in the more inclement weather they shelter themselves with bark erections of the rudest construction. They have no cultivation and no domestic animals. Their food consists of such animals as they can kill, and no kind of living creature seems to be rejected, snakes, lizards, frogs, or even insects being eaten, often half raw. They are ignorant of the potter's art. In their natural condition they wear little or no clothing. They speak a number of different languages or dialects. The women are regarded merely as slaves, and are frightfully maltreated. They have no religion; they practice polygamy, and are said to sometimes resort to cannibalism, but only in exceptional circumstances. They are occasionally employed by the settlers in light kinds of work, and as horse-breakers; but they dislike continuous occupation, and soon give it up. The weapons of all the tribes are generally similar, consisting of spears, shields, boomerangs, wooden axes, clubs, and stone hatchets. Of these the boomerang is the most singular, being an invention confined to the Australians.

Australia, South, one of the original States in the Commonwealth of Australia; occupies the middle of Australia, and stretches from sea to sea. At first as the colony of South Australia it extended between lon. 132° and 141° E., and from the Southern Ocean to lat. 26° N. It now has an area of about 903,690. Pop. (1901) 354,001.

Australia, Western, one of the original States in the Commonwealth of Australia; embraces all that portion of Australia W. of lon. 129° E., bounded E. by South Australia, and N., W., and S. by the Indian Ocean; area, 975,920 square miles; capital, Perth. The coast-line measures about 3,000 miles, and, except on the S., is indented by numerous bays, creeks, and estuaries. From 1850 to 1868 it was a place for the transportation of convicts. In 1890 the State received autonomous government. On Oct. 16, 1906, the Legislature adopted a motion to secede from the commonwealth, the union being detrimental to the developing interests of the State. Pop. 182,553.

Australian Federation, a political union of all the Australian colonies, the agitation for which began in 1852. Feb., 1899, a unanimous agreement was reached by the colonial premiers in conference at Melbourne, regarding the unsettled questions referred to them by the colonial Legislatures, thus insuring the success of the federation project. In 1900, a bill making Federation effective was introduced into Parliament, at London, and passed, the only amendment offered having reference to the royal prerogative. Later in that year the Earl of Hopetoun was appointed by the Queen first Governor-General. He resigned in May, 1902.

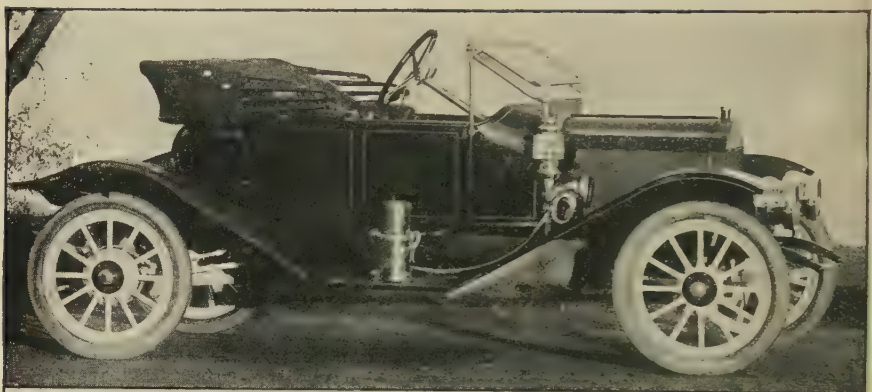
Austria, or **Austria-Hungary,** an extensive monarchy in Central Europe, inhabited by several distinct nationalities, and consisting of two semi-independent countries, each with its own parliament and government, but with one common sovereign, army,

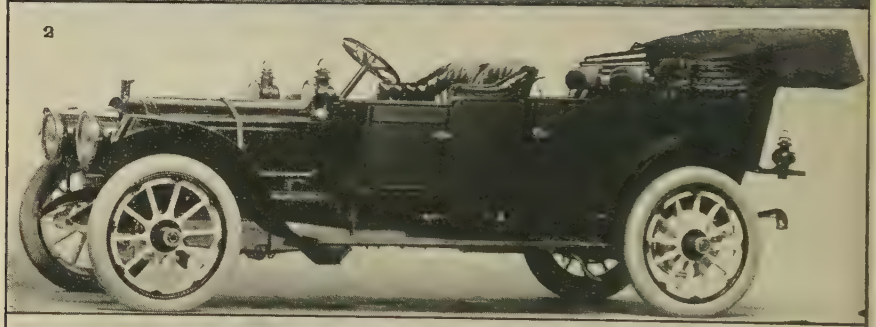
and system of diplomacy, and also with a parliament common to both. The Austrian empire extends from about lat. 42° to 51° N., or, exclusive of Dalmatia and the narrower part of Croatia, from about lat. 44° 30′ to 51° N., and from lon. 8° 30′ to 26° 30′ E., the total area in round numbers is 240,000 square miles. Its greatest length from E. to W. is about 860 miles; its greatest breadth from N. to S., with the exclusion above stated, is about 400 miles; bounded S. by Turkey, the Adriatic Sea, and the kingdom of Italy; W. by Switzerland, Bavaria, and Saxony; N. by Prussia and Russian Poland; and E. by Russia and Rumania. On the shores of the Adriatic, along the coasts of Dalmatia, Croatia, Istria, etc., lies its only sea frontage.

Besides being divided into the two great divisions above mentioned, the Austro-Hungarian monarchy is further divided into a number of governments or provinces. The following table gives their name, area, and population in 1900:

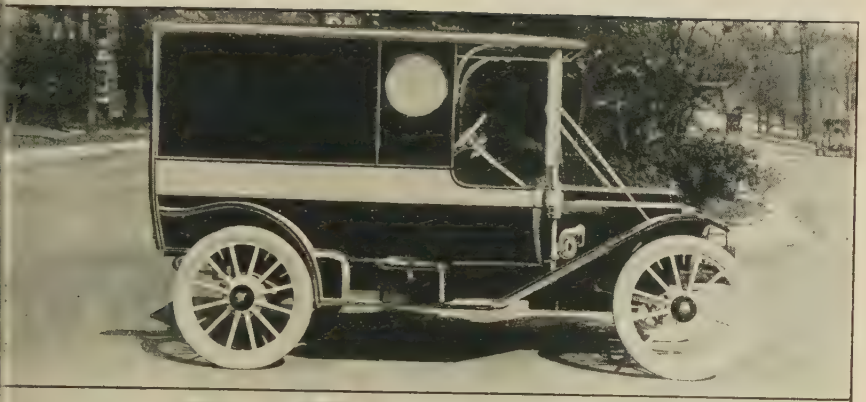
Divisions.	Area in sq. m.	Pop., Dec. 31, 1900
Austrian Provinces —		
Lower Austria	7,654	3,100,493
Upper Austria	4,631	810,246
Salzburg	2,767	192,763
Styria	8,670	1,356,494
Carinthia	4,005	367,337
Carniola	3,856	508,150
Coast land	3,084	756,546
Tyrol and Vorarlberg	11,324	981,989
Bohemia	20,060	6,318,697
Moravia	8,583	2,437,706
Silesia	1,987	680,422
Galicia	30,307	7,315,816
Bukowina	4,035	730,195
Dalmatia	4,940	593,783
	115,903	26,150,597
Hungarian Provinces —		
Hungary and Transylvania	108,258	16,656,904
Croatia and Slavonia	16,773	2,397,249
Fiume	8	38,139
Military out of the country		114,811
	125,039	19,207,103
Total	240,942	45,357,700

None of the European States, with the exception of Russia, exhibits such a diversity of race and language among their population as does the Austrian empire. The Slavs, who amount to above 19,000,000, or 45 per cent. of the total population, are the chief of the component nationalities of the monarchy in point of numbers, forming the great mass of the population of Bohemia, Moravia, Carniola, Galicia, Dalmatia, the kingdom of Croatia and Slavonia, and Northern Hungary, and half the population of Silesia and Bukowina. This preponderance, however, is only apparent, as none of the other races are split up into so many branches differing so greatly from each other in language, religion, civilization, manners, and customs. These branches are the North Slavic Czechs, Moravians, and Slovaks, the Ruthenians and Poles, and the South Slavic Slovenians, Croats, Serbs, and Bulgarians. The Germans, about 10,570,000 in number, are scattered over the whole monarchy, and form almost the sole population of the archduchy of Austria, Salzburg, the greatest portion of Styria and Carinthia, almost the whole of Tyrol and Vorarlberg, considerable portions of Bohemia and Moravia, the whole of the W. of Silesia, etc.; and they are also numerous in Hungary and Transylvania. The Magyars or Hungarians (7,440,000 in number, or about 16 per cent. of the total population) form the great bulk of the inhabitants of the kingdom of Hungary and of the E. portion of Transylvania. To the Italic or Western Romanic stock belong the inhabitants of South Tyrol and parts of the coast lands and Dalmatia, numbering about 700,000 in all. A considerable portion of the S. E. of the empire is occupied by members of the Rumanian (or Eastern Romanic) stock, who number altogether about 2,800,000, and form more than half the population of Transylvania, besides being spread over the S. E. parts of Hungary, Bukowina, and part of Croatia and Slavonia. The number of Jews is also very considerable (above 1,000,000), especially in Galicia, Hungary, Bohemia, and Moravia. There are also several other races whose numbers are small, such as the Gyp-





1—Roadster 2—Touring Car 3—Limousine (66 horse power)



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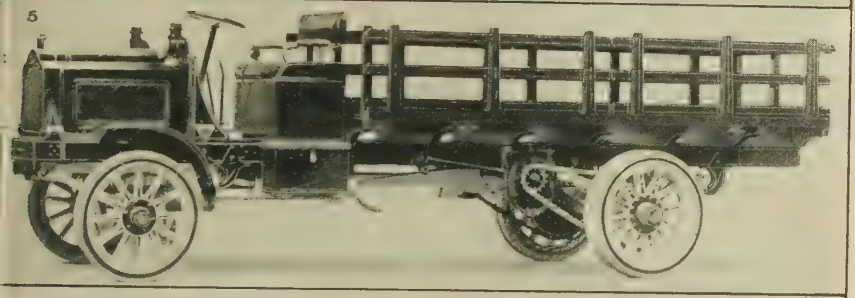

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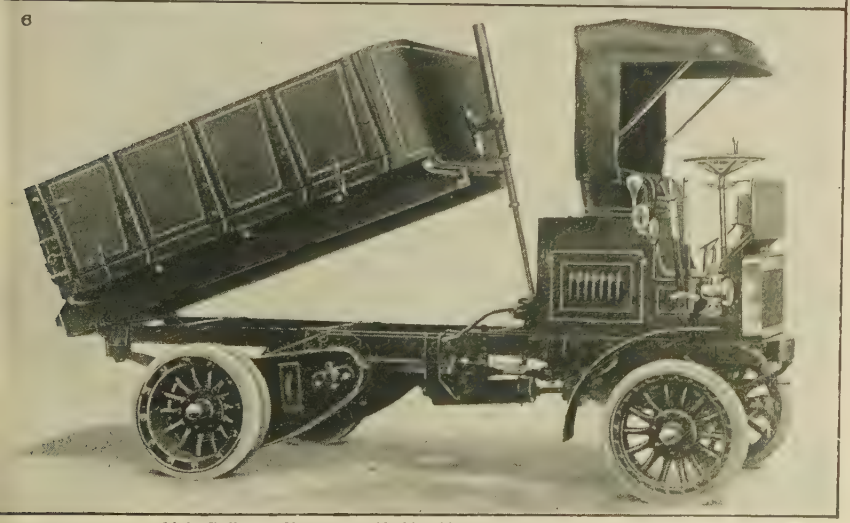


4—Light Delivery Wagon 5—Six Ton Truck 6—Four Ton Coal Truck

sies (95,000), who are most numerous in Hungary and Transylvania, and the Albanians in Dalmatia and neighboring regions. The population is thickest in Lower Austria, Bohemia, Silesia, and Moravia; thinnest in Salzburg. Generally speaking, it decreases in density from W. to E. The weakness of the empire lies in this diversity of race and language; already the contest between the German and Czech elements have caused serious tension, and it is probable that the death of the emperor, whose personal influence has thus far prevented actual warfare, will allow the race hatred that exists to break into dangerous manifestations. All legislative business was at a standstill for nearly three years until an agreement in April, 1906, between the factions permitted the ordinary functions of government to be resumed.

The State religion of Austria is the Roman Catholic, and next in numbers is the Greek Church. Calvinism and Lutheranism are also professed by a large body of the people; the former mostly in Hungary and Transylvania, the latter in the German provinces and in Galicia. The civil power exercises supreme control in all ecclesiastical matters, the emperor being, in everything but the name, head of the Church; and as no sentence or excommunication, or other ecclesiastical edict can be issued without the sanction of the crown, the Pope's direct authority in Austria is limited.

Military service is obligatory on all citizens capable of bearing arms who have attained the age of 20, and lasts up to the age of 42, either in the active army, in the landwehr, or the landsturm. The period of service in the active army is 12 years, of which three are passed in the line, seven in the reserve, and two in the landwehr. In 1900 the standing army numbered 361,693 men (including officers) on the peace footing, and 1,826,940 men and 45,238 officers when placed on the war footing.

On Oct. 7, 1909, without any previous hint, the annexation of the Turkish provinces of Bosnia and Herzegovina and the sanjak of Novi Bazar was proclaimed. Turkey vainly protested against the act, as a violation of the Treaty of Berlin.

Author's Guild, American, an organization founded in New York city, in 1892, and incorporated, in 1895, has for its objects the promotion of a professional spirit among authors and a better understanding between authors and their publishers, and, in general, the protection of literary property and the advancement of the interests of American authors and literature. The guild has a pension fund for members who become needy.

Autocracy, a word signifying that form of government in which the sovereign unites in himself the legislative and the executive powers of the State, and thus rules uncontrolled. Such a sovereign is, therefore, called an autocrat. Nearly all Eastern governments are of this form. Among European rulers, the Emperor of Russia alone bears the title of Autocrat, the name indicating his freedom from constitutional restraint of every kind.

Automatic Gun, a light-mounted breech-loading gun, in which the recoil of the first shot is turned to account in discharging the empty cartridge case, reloading, and returning the gun to firing readiness.

Automaton (Greek automatos, spontaneous), a self-moving machine performing actions like those of a living being, and often shaped like one. The walking statues of Dædalus, the flying dove of Archytas, the brazen head of Friar Bacon, the iron fly of Regiomontanus, the door-opening figure of Albertus Magnus, the parading knights of the clock presented to Charlemagne by Harun al Rashid, the toy carriage and attendants constructed by Camus for Louis XIV., and the flute-player of Vaucanson, are among the noteworthy automata.

Automobiles, a term under which are comprised horseless carriages, motor vans, motor omnibus, and all the motor traction vehicles adapted for use on ordinary roads having no rails. Electricity, steam and gasoline or naptha are the three main sources of power that do the bidding of the man behind the lever. Other sources of power, such as compressed air, liquid air, carbonic acid gas and alcohol, have been experimented with; but are regarded as impracticable by experts. The modern automobile, which was led up to by the bicycle with its rub-

ber tires, found its first great development in France, encouraged by the perfection of the highways in that country. • The U. S. Government census report for the year 1909 gives the automobile output for the year as $249,202,000; number of persons employed, 75,721; number of cars manufactured, 119,000. In 1911 the production in the United States was 209,957 automobiles, and manufacturers say the total number will reach over 247,000 in 1912, with a gross valuation of about $500,000,000. In addition to the home production, large quantities of vehicles are imported from Europe. The accessory side of automobiling shows nearly 1,000 manufacturers, with over $200,000,000 capitalization, exclusive of the rubber tire companies. Since the year 1910 great progress has been made in the development of the commercial automobile for light delivery and heavy trucking purposes.

Autonomy, the arrangement by which the citizens of a State manage their own legislation and government; and this evidently may, with certain restrictions, be the case also within limited bodies of the same people, such as corporations, religious sects, etc.

Autopsy, eye-witnessing, a direct observation; generally applied to a post mortem examination, or the dissection of a dead body.

Autumn, the season of the year which follows summer and precedes winter. Astronomically, it is considered to extend from the autumnal equinox, Sept. 23, in which the sun enters Libra, to the winter solstice, Dec. 22, in which he enters Capricorn. Popularly, it is believed to embrace the months of September, October and November.

Auvergne, a province of Central France, now merged into the Departments of Cantal and Puy-de-Dôme, and an arrondissement of Haute-Loire. It contains the Auvergne Mountains, the highest in France.

Auxetophone, a device which greatly increases the sound produced by the graphophone (q. v.).

Auzout, Adrian, a French mathematician; inventor of the micrometer, which is still in use among astronomers to measure the apparent diameter of celestial bodies. He was the first who thought of applying the telescope to the astronomical quadrant. He died in 1691.

Ava, Arva, Yava, or **Kava,** a plant possessing narcotic proprieties. Until recently it was ranked in the genus piper (pepper). It is a native of many of the South Sea islands, where the inhabitants intoxicate themselves with a fermented liquor prepared from the upper portion of the root and the base of the stem.

Avalanches, masses of snow or ice that slide or roll down the declivities of high mountains, and often occasion great devastation. They are most common in July, August and September. Sudden avalanches, larger or smaller, constitute one of the special dangers of Alpine climbing.

Avars, a people, probably of Turanian origin, who at an early period may have migrated from the region E. of the Tobol in Siberia to that about the Don, the Caspian Sea, and the Volga. A part advanced to the Danube in 555 A. D., and settled in Dacia. They served in Justinian's army, aided the Lombards in destroying the kingdom of the Gepidæ, and in the 6th century conquered under their khan, Bajan, the region of Pannonia. They then won Dalmatia, pressed into Thuringia and Italy against the Franks and Lombards, and subdued the Slavs dwelling on the Danube, as well as the Bulgarians on the Black Sea. But they were ultimately limited to Pannonia, where they were overcome by Charlemagne, and nearly extirpated by the Slavs of Moravia. After 827 they disappear from history. Traces of their fortified settlements are found, and known as Avarian rings.

Avatar, more properly Avatara, in Hindu mythology, an incarnation of the Deity. Of the innumerable avatars the chief are the 10 incarnations of Vishnu, who appeared successively as a fish, a tortoise, a boar.

Avdyeyev, Michael Vassilyevich, a Russian novelist (1821–1876).

Avebury, a village of England, in Wiltshire, occupying the site of a so-called Druidical temple, which originally consisted of a large outer circle

of 100 stones, from 15 to 17 feet in height, and about 40 feet in circumference, surrounded by a broad ditch and lofty rampart, and inclosing two smaller circles.

Avebury, Lord. See LUBBOCK.

Avellaneda, Nicholas, an Argentine statesman, born in Tucuman, Oct. 1, 1836; Minister of Public instruction in 1868–1874, and President of the Republic in 1874–1886; published several historical and economical works. He died Dec. 26, 1885.

Avellaneda y Arteaga, Gertrudis Gomez de, a distinguished Spanish poet, dramatist and novelist, born in Puerto Principe, Cuba, March 23, 1814. She died in Madrid, Feb. 2, 1873.

Ave Maria ("Hail, Mary"), the first two words of the angel Gabriel's salutation (Luke i: 28), and the beginning of the very common Latin prayer to the Virgin in the Roman Catholic Church.

Average, formerly the apportionment of losses by sea or elsewhere in just proportions among different individuals; now the medium or mean proportion between certain given quantities. It is ascertained by adding all the quantities together and dividing their sum by the number of them.

Averell, William Woods, an American military officer, born in Cameron, N. Y., Nov. 5, 1832; was graduated at the United States Military Academy in 1855; served on the frontier and in several Indian campaigns till the beginning of the Civil War, when he was appointed Colonel of the 3d Pennsylvania Cavalry, and assigned to the command of the cavalry defenses of Washington. During the war he distinguished himself on numerous occasions as a cavalry rajder and commander, and at its close was brevetted Major-General of volunteers. He was retired in 1888. He was United States Consul-general at Montreal in 1866–1869. He died in Bath, N. Y., Feb. 3, 1900.

Avernus, or **Averno,** a lake in the neighborhood of Naples, about 2½ miles N. W. of Puzzuoli, and near the coast of Baiæ, the waters of which were so unwholesome and putrid that no birds ever visited its banks. The ancients made it the entrance of hell, by which Ulysses and Æneas descended into the lower regions.

Averrhoa, a genus of plants. It consists of two species, both of which form small trees in the East Indies. One has fruit resembling a small cucumber. The latter is intensely acid and cannot be eaten raw. It is pickled or candied, or a syrup is obtained from it by boiling with sugar, and its juice is found an excellent agent for removing iron mold or other spots from linen. To the Malays it answers the same purposes as the citron, the gooseberry, the caper and the cucumber of Europe.

Avery, Benjamin Parke, an American journalist and diplomatist, born in New York city in 1829. From 1874 to 1875 he was United States Minister to China. He died in Pekin, China, Nov. 8, 1875.

Avery, Samuel Putnam, an American merchant, born in New York city, March 17, 1822; became a copper-plate and wood engraver, and subsequently an art publisher and dealer, and retired from business in 1888. In 1891, with his wife, he created and endowed the Avery Architectural Library, in Columbia University, as a memorial of his deceased son; and in May, 1900, he presented to the trustees of the New York Public Library a collection of etchings, lithographs and photographs, numbering more than 17,500 pieces, with many volumes similarly illustrated. Died Aug. 12, 1904.

Aviary, a building for birds.

Aviation. See AERONAUTICS.

Avicennia, or **White Mangrove,** a genus which consists of trees or large shrubs resembling mangroves, and, like them, growing in tidal estuaries and salt marshes.

Avienus, Rufus Festus, a Latin descriptive poet, who flourished about the end of the 4th century after Christ, and wrote "Descriptio Orbis Terræ," a general description of the earth; "Ora Maritima," an account of the Mediterranean coasts, etc.

Avignon (ancient Avenio), a city of France, capital of the Department of Vaucluse, on the left bank of the Rhone, 76 miles N. N. W. of Marseilles, on the railway to Paris. In

1309, Clement V. transferred thither the abode of the Popes, who continued to reside here till 1377, when they returned to Rome; but two schismatical Popes, or Popes elected by the French cardinals, resided at Avignon till 1409. Avignon and its territory remained the property of the Holy See until, 1797, when it was incorporated with France.

Avoca, or **Ovoca,** a beautiful valley and river of Ireland, near Glendalough, in the county of Wicklow, and celebrated as being the scene which gave rise to one of the finest of Moore's "Irish Melodies."

Avocado, a West Indian fruit, called also avocado pear, alligator pear, subaltern's butter tree, avigato, and sabacca. It is found in tropical America.

Avoirdupois, a system of weights used for all goods except precious metals, gems, and medicines, and in which a pound contains 16 ounces, or 7,000 grains, while a pound troy contains 12 ounces, or 5,760 grains. A hundredweight contains 112 pounds avoirdupois.

Avon, the name of several English and Scottish rivers, the best known of which is that Avon which rises in Northamptonshire, and flows into the Severn at Tewkesbury, after a course of 100 miles. On its banks is Stratford-on-Avon, the birthplace and abode of Shakespeare, who has hence been styled the Bard of Avon.

Axayacat, or **Axayacatl,** a Mexican fly, the eggs of which, deposited abundantly on rushes and flags, are collected and sold as a species of caviare.

Axim, an important station and port on the African Gold Coast, a little to the E. of the mouth of the Ancobrah river. Inland from Axim, in the basin of that river, and in the district between it and the Prah, gold mining operations have been carried on on a large scale.

Axinomancy, a mode of divination much practiced by the ancient Greeks, particularly with the view of discovering the perpetrators of great crimes. An ax was poised upon a stake, and was supposed to move so as to indicate the guilty person; or the names of suspected persons being pronounced, the motion of the ax at a particular name was accepted as a sign of guilt.

Axiom, a Greek word meaning a decision or assumption, is commonly used to signify a general proposition which the understanding recognizes as true, as soon as the import of the words conveying it is apprehended.

Axis, a straight line, real or imaginary, passing through a body, and around which that body revolves, or at least may revolve; also, the imaginary line connecting the poles of a planet, and around which the planet rotates.

Axis, a species of deer found in India, called by Anglo-Indian sportsmen hog deer.

Axminster, a market town in England, in the county Devon, on the Axe, at one time celebrated for its woolen cloth and carpet manufactures, and giving name to an expensive variety of carpet having a thick, soft pile, and also to a cheaper variety.

Axolotl, a curious Mexican amphibian, not unlike a newt, from 8 to 10 inches in length, with gills formed of three long, ramified or branch-like processes floating on each side of the neck. It reproduces by laying eggs, and was for some time regarded as a perfect animal with permanent gills. It is said, however, that they frequently lose their gills like the other members of the genus, though some authorities maintain that the true axolotl never loses its gills. The axolotl is esteemed a luxury by the Mexicans. There are a number of species in North America.

Ayacucho, formerly Huamanga or Guamanga, a town in the Peruvian department of the same name, 220 miles E. S. E. of Lima. Here, on Dec. 9, 1824, the combined forces of Peru and Colombia — the latter then comprising Ecuador, New Granada, and Venezuela — totally defeated the last Spanish army that ever set foot on the continent.

Aye-aye, an animal of Madagascar, so called from its cry, now referred to the lemur family. It is about the size of a hare, has large, flat ears and a bushy tail.

Ayeshah, also **Aysha,** or **Aisha,** the favorite wife of Mohammed, an

daughter of Abu-Bekr, was born at Medina about 610 A. D.; and was only nine years of age when the Prophet married her. She was the only one of Mohammed's wives who accompanied him in his campaigns. Although Ayeshah bore no children to Mohammed, she was tenderly beloved by him. She died at Medina (677 A. D.), highly venerated by all true Mussulmans, and named the Prophetess and the Mother of Believers.

Aylmer, Matthew, a Canadian military officer, born in Melbourne, P. Q., March 28, 1842; became Adjutant-General of the Dominion militia, the highest military office in Canada next to that of the Major-General commanding, in 1896.

AYE-AYE.

Ayr, a town of Scotland, a royal and parliamentary borough and capital of Ayrshire, at the mouth of the river Ayr. The house in which the poet Burns was born stands within 1½ miles of the town, between it and the Church of Alloway ("Alloway's auld haunted kirk"), and a monument to him stands on a height between the kirk and the bridge over the Doon.

Ayrer, Jacob, a German dramatist; next to Hans Sachs the most prolific dramatist of Germany in the 16th century. He died in Nuremberg, March 26, 1605.

Ayres, Anne, an American author, born in England in 1816; was the first member of an American sisterhood in the Protestant Episcopal Church. She died in February, 1896.

Ayrton, William Edward, an English electrician and inventor, born in London, in 1847; was graduated at University College, London, in 1867; entered the Indian telegraph service, having studied electrical engineering with Prof. William Thomson; became electrical superintendent and introduced throughout India the system of determining the position of a fault by electrically testing one end of a line. He has been a voluminous writer and is widely known for his "Practical Electricity."

Aytoun, Sir Robert, poet, born in Fifeshire, Scotland, in 1570; died in 1638.

Aytoun, William Edmondstoune, poet and prose writer, born at Edinburgh, Scotland, in 1813. In 1848 he published a collection of ballads entitled "Lays of the Scottish Cavaliers," which has proved the most popular of all his works. He died at Blackhills, Elgin, 1865.

Ayuntamiento, the name given in Spain to the councils or governing bodies of towns.

Ayuthia, the ancient capital of Siam, on the Menam, 50 miles N. of Bangkok. Some magnificent buildings still remain, now crumbling into ruins and overgrown with luxuriant vegetation; notable among them are Buddhist temples, especially the Golden Mount, 400 feet high.

Azalea, a genus of plants belonging to the heathworts. Several foreign azaleas are cultivated in gardens and greenhouses on account of the abundance of their fine flowers, and, in some cases, their fragrant smell.

Azeglio, Massimo Taparelli, Marquis d', an Italian author, artist, diplomatist, and statesman, born at Turin, in 1801. He died Jan. 15, 1866.

Azores, or **Western Islands,** a Portuguese archipelago, in the mid-Atlantic, between 36° 55′ and 39° 55′ N. lat. and between 25° 10′ and 31° 16′ W. long., stretching over a distance of 400 miles.

The total area of the group is 919

square miles, and the pop. (1890) 255,594. The coast is generally steep and rugged; the interior abounds in ravines and mountains. Perhaps the greatest want of the group is a good harbor. The Azores are regarded as a province, not a colony, of Portugal.

Azov, Sea of, is a large gulf of the Black Sea, formed by the Crimean peninsula, or rather an inland lake connected with the Black Sea by the Strait of Yenikale or Kertch (ancient Bosporus Cimmerius), 28 miles long, and barely 4 wide at the narrowest. The whole sea is shallow, from 3 to 52 feet deep; and measuring 235 by 110 miles, it occupies an area of 14,500 square miles.

Azrael, the name given to the angel of death by the Mohammedans.

Aztecs, a race of people who settled in Mexico early in the 14th century, ultimately extended their dominion over a large territory, and were still extending their supremacy at the time of the arrival of the Spaniards, by whom they were speedily subjugated. See MEXICO.

Azuline, or **Azurine,** blue dyes belonging to the coal-tar class.

Azuni, Domenico Alberto, an Italian jurist, born in Sassari, Sardinia, in 1749. He became judge of the Tribunal of Commerce at Nice, and in 1795 published a work in which he endeavored to reduce maritime laws to fixed principles. He died Jan. 23, 1827.

Azure, the heraldic term for the color blue, represented in engraving by horizontal lines.

Azurine, a fresh water fish of the same genus as the roach, chub and minnow; called also blue roach.

B, the second letter in all European alphabets, in Hebrew, and most other languages. It belongs to the mutes and labials, and as all labials are easy to be pronounced, b is one of the first letters which children learn to speak, after a, ba or pa generally being the first syllable.

Baal, the chief male divinity among the Phœnicians, as Ashtoreth was the leading female one. The Carthaginians, who sprang from the Phœnicians, carried with them his worship to their new settlements, as is proved, among other evidence, by the names of some of their world-renowned heroes; thus Hannibal, written in Punic inscriptions, Hannibaal, signifies the grace of Baal; and Hasdrubal, or Asdrubal, Azrubaal = "Help of Baal." The worship of Baal early existed among the Canaanites and the Moabites, whence it spread to the Israelites, becoming at last for a time completely dominant among the 10 tribes, and to a certain extent even among the two. Perhaps the Babylonian Bel was only Baal with a dialectic difference of spelling, though Prof. Rawlinson thinks differently (Isa. xlvi: 1). There was an affinity between Baal and Moloch. The Beltein or Beltane fires, lit in early summer in Scotland and Ireland, seem to be a survival of Baal's worship.

Baalbek (ancient HELIOPOLIS, city of the sun), a place in Syria, in a fertile valley at the foot of Antilibanus, 40 miles from Damascus, famous for its magnificent ruins. Of these, the chief is the temple of the Sun, built either by Antoninus Pius or by Septimius Severus. Some of the blocks used in its construction are 60 feet long by 12 thick; and its 54 columns, of which 6 are still standing, were 72 feet high and 22 in circumference. Near it is a temple of Jupiter, of smaller size, though still larger than the Parthenon at Athens, and there are other structures of an elaborately ornate type. Originally a center of the sun-worship, it became a Roman colony under Julius Cæsar, was garrisoned by Augustus, and acquired increasing renown under Trajan as the seat of an oracle. Under Constantine its temples became churches, but after being sacked by the Arabs in 748, and more completely pillaged by Tamerlane in 1401, it sank into hopeless decay. The work of destruction was completed by an earthquake in 1759.

Baba, a Turkish word, signifying father, originating, like our word papa, in the first efforts of children to speak. In Persia and Turkey it is prefixed as a title of honor to the names of ecclesiastics of distinction, especially of such as devote themselves to an ascetic life; it is often affixed in courtesy, also, to the names of other persons, as Ali-Baba.

Babbage, Charles, an English mathematician and inventor of a calculating machine; born near Teignmouth, England, Dec. 26, 1792. He died in London, Oct. 18, 1871.

Babbitt, Isaac, an American inventor, born in Taunton, Mass., July 26, 1799; learned the goldsmith's trade; early became interested in the production of alloys; and in 1824 manufactured the first britannia ware in the United States. In 1839, he discovered the well known anti-friction metal which bears his name, Babbitt metal. For this discovery, the Massachusetts Charitable Mechanics' Association awarded him a gold medal in

1841, and subsequently Congress voted him $20,000. He died in Somerville, Mass., May 26, 1862.

Babbitt Metal, a soft metal resulting from alloying together certain proportions of copper, tin, and zinc, or antimony, used with the view of as far as possible obviating friction in the bearings of journals, cranks, axles, etc. Invented by Isaac Babbitt.

Babcock, Earle Jay, an American educator; born in St. Charles, Minn., June 11, 1865; was graduated at the University of Minnesota in 1899; worked extensively with the United States Geological Survey; and in 1902 was director of the State School of Mines of North Dakota, and Professor of Chemistry and Geology in the State University.

Babcock, Orville E., an American military officer, born in Franklin, Vt., Dec. 25, 1835; served with distinction in the Civil War, and was a member of Gen. Grant's staff. When the latter was elected President, Babcock became his secretary, and the superintending engineer of several important public works. He was indicted in 1876 for taking part in revenue frauds, but on his trial was acquitted. He died in Florida, June 2, 1884.

Babcock, Stephen Moulton, an American educator; born in Bridgewater, N. Y., Oct. 22, 1843. He was instructor of chemistry at Cornell University in 1875–1876; Professor of Agricultural Chemistry at the University of Wisconsin; and chemist to the New York State Experimental Station.

Babel, a place or circumstances in which confusion of sounds — as, for instance, by several people speaking at once — is the predominating characteristic. The reference is to the confusion of tongues divinely sent in consequence of the building of the Tower of Babel (Gen. xi: 1–9). The magnificent temple of Belus, asserted to have been originally this tower, is said to have had lofty spires, and many statues of gold, one of them 40 feet high. In the upper part of this temple was the tomb of the founder, Belus (the Nimrod of the sacred Scriptures), who was deified after death. The Tower of Babel is most frequently identified with the enormous ruin at Birs, 2,000 ft. in base circumference, 156 ft. high, and two hours west of Hillah on the site of the ancient biblical city of Babylon.

Bab-el-Mandeb (*i. e.*, the gate of tears), the name of the strait between Arabia and the continent of Africa, by which the Red Sea is connected with the Gulf of Aden and the Indian Ocean.

Bâbi, the name of a modern Persian sect, derived from the title, Bâb-ed-Din (gate of the faith), assumed by its founder, Mirza Ali Mohammed, a native of Shiraz, who, in 1843, after a pilgrimage to Mecca, undertook to form a new religion from a mixture of Mohammedan, Christian, Jewish, and Parsee elements. Bâbism enjoins few prayers, and those only on fixed occasions; encourages hospitality and charity; prohibits polygamy, concubinage, and divorce; discourages asceticism and mendicancy; and directs women to discard the veil, and share as equals in the intercourse of social life.

Babington, Anthony, a Roman Catholic gentleman of Derbyshire, who associated with others of his own persuasion to assassinate Queen Elizabeth, and deliver Mary, Queen of Scots. The plot being discovered, the conspirators were executed in 1586.

Babiroussa (a Malay word signifying stag hog), a species of wild hog, sometimes called the horned or stag hog, from the great length and curvature of its upper tusks or canines, which curl upward and backward somewhat like the horns of Ruminantia, the lower canines being also very prominent. It is nearly of the size of a common hog, but rather longer, and with more slender limbs. The babiroussa is very numerous in Celebes, the Moluccas, and Java. It is hunted with dogs, and when taken makes little resistance; sometimes when pressed it endeavors to reach the sea, and eludes its pursuer by its dexterity in diving and swimming.

Baboo, or **Babu,** a Hindu title of respect equivalent to sir or master, usually given to wealthy and educated native gentlemen, especially when of the mercantile class.

Baboon, a common name applied to a genus of monkeys, natives of Africa. They make a very obstinate resistance to dogs, and only retreat before men when armed with guns. They feed exclusively on fruits, seeds, and other vegetable matter, and display a great deal of cunning and audacity when engaged in their marauding expeditions. This animal has the remarkable instinctive power of being able to detect the presence of water, and in South Africa is often employed for this purpose when the ordinary water supply fails. The baboon can never be called tamed, however long his confinement may have endured.

Babuyanes, or **Madjicosima Islands,** a number of islands lying about 30 miles N. of Luzon, and generally considered the most northern of the Philippines. They are subject to the Loo-Choo Islands; aggregate pop. about 12,000.

Babylon, the capital of Babylonia, on both sides of the Euphrates, one of the largest and most splendid cities of the ancient world, now a scene of ruins, and earth-mounds containing them. Babylon was a royal city 1600 years before the Christian era; but the old city was almost entirely destroyed in 683 B. C. A new city was built by Nebuchadnezzar nearly a century later. This was in the form of a square, each side 15 miles long, with walls of such immense height and thickness as to constitute one of the wonders of the world. It contained splendid edifices, large gardens and pleasure-grounds, especially the hanging-gardens, a sort of lofty terraced structure supporting earth enough for trees to grow, and the celebrated tower of Babel, or temple of Belus, rising by stages to the height of 625 feet. (See BABEL.) After the city was taken by Cyrus in 538 B. C., and Babylonia made a Persian province, it began to decline, and had suffered severely by the time of Alexander the Great. He intended to restore it, but was prevented by his death, which took place here in 323 B. C., from which time its decay was rapid.

The great city of Babylon, or Babel, was the capital of Babylonia, which was called by the Hebrews Shinar. The country was, as it still is, exceedingly fertile, and must have anciently supported a dense population. The chief cities, besides Babylon, were Ur, Calneh, Erech, and Sippara. Babylonia and Assyria were often spoken of together as Assyria.

Babylonish Captivity, a term usually applied to the deportation of the two tribes of the kingdom of Judah to Babylon by Nebuchadnezzar, 585 B. C. The duration of this captivity is usually reckoned 70 years, though strictly speaking, it lasted only 56 years. A great part of the 10 tribes of Israel had been previously taken captive to Assyria.

Baccarat, or **Baccara,** a game played with the ordinary playing cards. It acquired notoriety owing to a fraud alleged to have been perpetrated by one of the persons present in a game at which the Prince of Wales, now King Edward, was "banker," some years ago.

Bacchus (in Greek generally Dionysos), the god of wine.

Bach, Alexander von, an Austrian statesman, born in Loosdorf, Jan. 4, 1813; was Minister of Justice in 1848, of the Interior in 1849–1859; and, subsequently, ambassador to Rome. In 1855, he negotiated the Concordat with the Papacy which brought Austria into submission to the Roman Church. He died Nov. 15, 1892.

Bach Heinrich a German musician, born Sept. 16, 1615; member of the celebrated family of musicians, father of Johann Christoph and Johann Michael Bach; was organist at Arnstadt, where he died July 10, 1691.

Bach, Johann Christian, a German musician, born in Erfurt, in 1640; a member of the family of musicians; son of Johannes Bach, the great uncle of Johann Sebastian Bach. He died in Erfurt, in 1682.

Bach, Johann Christian, a German musician, born in Leipsic, in 1735; a son of Johann Sebastian Bach; died in London, in 1782.

Bach, Johann Christoph Friedrich, a German musician, born in Leipsic, in 1732; a son of Johann Sebastian Bach; died in Bückeburg, in 1795.

Bach, Johann Michael, a German composer and instrument maker,

born in 1648; a son of Heinrich Bach; father-in-law of Johann Sebastian Bach. He died in Arnstadt, in 1694.

Bach, Johann Sebastian, a celebrated musician, born at Eisenach, Upper Saxony, March 21, 1685. When he was 10 years old his father, who was a musician at Eisenach, died, and Bach sought the protection of an elder brother, who, dying soon after, he was again left destitute, and, to earn a livelihood, entered the choir of St. Michael's, Luneberg, as a soprano singer. In 1703 he became court musician at Weimar, the following year organist at Arnstadt, and in 1708 court organist at Weimar. While holding this office he labored to make himself master of every branch of music. In 1717 he was made Director of Concerts, and six years afterward Director of Music and Cantor to St. Thomas' School, Leipsic, an appointment which he held to his death. Bach's close studies affected his eyes, and an operation left him totally blind and hastened his death, in Leipsic, July 28, 1750. With the exception of Handel, Bach had no rival as an organist.

Bach, Karl Philipp Emanuel, a German musician, born in Weimar, March 14, 1714; son of Johann Sebastian Bach; was court musician in the service of Frederick the Great in 1740–1767. He died in Hamburg, Dec. 14, 1788.

Bache, Alexander Dallas, an American scientist, born in Philadelphia, Pa., July 19, 1806; was graduated at the United States Military Academy, at the head of his class, in 1825; became Professor of Natural Philosophy and Chemistry at the University of Pennsylvania in 1828; was the organizer and first President of Girard College, 1836; and was appointed superintendent of the United States Coast Survey, in 1843. In the last office he performed services of lasting and invaluable character. He was regent of the Smithsonian Institution in 1846–1867; an active member of the United States Sanitary Commission during the Civil War; and President of the National Academy of Sciences in 1863. He died in Newport, R. I., Feb. 17, 1867.

Bache, Hartman, an American military engineer, born in Philadelphia, Pa., Sept. 3, 1798; was graduated at the United States Military Academy, in 1818. His most notable achievements were the building of the Delaware Breakwater and the application of iron-screw piles for the foundation of lighthouses upon sandy shoals and coral reefs. He died in Philadelphia, Oct. 8, 1872.

Bache, Sarah, an American philanthropist, born in Philadelphia, Pa., Sept. 11, 1744; was the only daughter of Benjamin Franklin, and the wife of Richard Bache. During the Revolutionary War she organized and became chief of a band of patriotic ladies who made clothing for the soldiers, and in other ways relieved their sufferings, especially during the severe winter of 1780. At one time she had nearly 2,500 women engaged under her direction in sewing for the army. She personally collected large sums of money to provide the material for this work, and also for the purchase of medicines and delicacies for the soldiers in the hospitals, where she also personally acted as nurse. She died Oct. 5, 1808.

Bacheller, Irving, an American novelist, born in Pierpont, N. Y., Sept. 26, 1859. He was graduated at St. Lawrence University in 1879 and became a reporter of the Brooklyn "Times." Subsequently he established a newspaper syndicate. He has written several novels, notable for originality, and for fresh, and fascinating pen pictures of American life.

Bachelor, a term applied anciently to a person in the first or probationary stage of knighthood who had not yet raised his standard in the field. It also denotes a person who has taken the first degree in the liberal arts and sciences, or in divinity, law, or medicine, at a college or university; or a man of any age who has not been married. A knight bachelor is one who has been raised to the dignity of a knight without being made a member of any of the orders of chivalry such as the Garter or the Thistle.

Bachelor's Buttons, the double flowering buttercup with white or yellow blossoms, common in gardens.

Bachman, John, an American clergyman and naturalist, born in Duchess county, N. Y., Feb. 4, 1790; became pastor of a Lutheran church in Charleston, S. C. He is best known by reason of his association with Audubon in the making of the "Quadrupeds of North America," he writing the principal part of the text, which Audubon and his sons illustrated. He died in Charleston, S. C., Feb. 25, 1874.

Bacillus, a name given to certain filiform bacteria, which have assumed much importance of late, principally because of their constant presence in the blood and tissues in splenic fever and malignant pustule. See BACTERIA.

Back, Sir George, an English explorer, born in Stockport, Nov. 6, 1796. He died in London, June 23, 1878, after visiting both polar regions.

Backgammon, a favorite game of calculation. It is played by two persons, with two boxes, and two dice, upon a quadrangular table, or board, on which are figured 24 points, or fléches, of two colors, placed alternately. The board is divided into four compartments, two inner and two outer ones, each containing six of the 24 points (alternate colors). The players are each furnished with 15 men, or counters, black and white.

Backhuysen, Ludolf, a celebrated painter of the Dutch school, particularly in sea pieces, born in 1631. He died in 1709.

Backus, Truman Jay, an American educator, born in Milan, N. Y., Feb. 11, 1842; was graduated at the University of Rochester in 1864; and became President of the Packer Collegiate Institute in Brooklyn, N. Y. After going to Brooklyn he served on several State commissions. Died 1908.

Bacolor, a town in the Island of Luzon, Philippine Islands; 10 miles N. W. of Manila.

Bacon, a word applied to the sides of a pig which have been cured or preserved by salting with salt and saltpeter, and afterward drying with or without wood smoke.

Bacon, Alice Mitchell, an American educator, born in New Haven, Conn., Feb. 26, 1858; was educated privately and took the Harvard examinations in 1881; taught at the Hampton Normal and Agricultural Institute in 1883–1888, and in Tokio, Japan, in 1888–1889; returned to the Hampton Institute in 1889, and founded the Dixie Hospital for training colored nurses in 1890.

Bacon, Benjamin Wismer, an American educator, born in Litchfield, Conn., Jan. 15, 1860; in 1896 became Professor of New Testament Criticism and Exegesis in Yale University.

Bacon, Delia Salter, an American author; born in Tallmadge, O., Feb. 2, 1811; died in Hartford, Conn., Sept. 2, 1859.

Bacon, Edwin Munroe, an American author; born in Providence, R. I., Oct. 20, 1844.

Bacon, Francis, Viscount St. Albans, one of the most remarkable men of whom any age can boast; a reformer of philosophy, by founding it on the observation of nature, after it had consisted, for many centuries, of scholastic subtleties and barren dialectics; born in London, Jan. 22, 1561, his father being Sir Nicholas Bacon, lord keeper of the great seal. He contracted an advantageous marriage; was made solicitor-general and then attorney-general; in 1617 became lord keeper of the seals; in 1618 was made lord high chancellor and created Baron of Verulam, and in 1621 Viscount St. Albans. He might have lived with splendor without degrading his character by those acts which stained his reputation. He was accused before the House of Lords of having received money for grants of offices and privileges under the seal of State. He was unable to justify himself, and, desiring to avoid the mortification of a trial, confessed his crimes and threw himself on the mercy of the peers, beseeching them to limit his punishment to the loss of the high office which he had dishonored. The lords sentenced him to pay a fine of £40,000, and to be imprisoned in the Tower during the pleasure of the king. He was also declared forever incapable of place or employment, and forbidden to sit in Parliament or to appear within the verge of the court. He survived his fall only a few years, and died in

Highgate, April 9, 1626. Efforts have been made to prove him the real author of the works of Shakespeare, and the controversy still goes on.

Bacon, Henry, an American painter, born in Haverhill, Mass., in 1839. He served in the Civil War, studied art in Paris under Cabanel and Edward Frere, and painted, among others, "Boston Boys and Gen. Gage" "Paying the Scot;" etc.

Bacon, John, an English sculptor, born in London, Nov. 24, 1740. He died Aug. 4, 1799.

Bacon, John Mosby, an American military officer, born in Kentucky, April 17, 1844; served in the Union army, through the Civil War; was appointed Captain in the 9th United States Cavalry, in 1866, and Colonel of the 8th Cavalry, in 1897. On May 4, 1898, he was appointed Brigadier-General of Volunteers and placed in command of the Department of Dakota. In October of that year he put down the outbreak of the Pillager band of the Chippewa Indians in Cass county, Minn. Subsequently, he was assigned to duty in Cuba, with headquarters at Neuvitas, till May 8, 1899, when he was retired.

Bacon, Leonard, an American clergyman, born in Detroit, Mich., Feb. 19, 1802; graduated at Yale in 1820, after which he studied theology at Andover, Mass. In 1825 he became pastor of the First Congregational church in New Haven, Conn., where he died Dec. 24, 1881. He was joint-editor of the "Independent" for 16 years and from 1866-1871 was Prof. of Didactic Theology at Yale.

Bacon, Nathaniel, an Anglo-American lawyer, born in Suffolk, England, Jan. 2, 1642; became the leader in BACON'S REBELLION (q. v.) in Virginia, and died Oct. 29, 1676.

Bacon, Robert, American statesman, b. Cape Cod, Mass., 1858. He graduated from Harvard Univ. 1880; became a banker in the firm of J. Pierpont Morgan, and in 1905 was appointed by Pres. Roosevelt first assist. sec. of state.

Bacon, Roger, an English monk, and one of the most profound and original thinkers of his day, was born about 1214, near Ilchester, Somersetshire. He died in Oxford, in 1294.

Baconian Philosophy, the inductive philosophy of which it is sometimes said that Lord Bacon was the founder. This, however, is an exaggerated statement. What Lord Bacon did for this mode of ratiocination was to elucidate and systematize it; to point out its great value, and to bring it prominently before men's notice; lending it the support of his great name at a time when most of his contemporaries were satisfied with the barren logic of the schools. The great triumphs of modern science have arisen from a resolute adherence on the part of its votaries to the Baconian method of inquiry.

Bacon's Rebellion, a popular uprising of the Virginian colonists, headed by Nathaniel Bacon, in protest against certain government abuses, which prevailed under the administration of Sir William Berkeley. Bacon compelled Berkeley to take refuge on a warship, and burned all the public buildings at Jamestown. He died at the most critical moment, and the rebellion came to an end.

Bacteria, a class of very minute microscopic organisms or microbes which are regarded as of vegetable nature, and as being the cause of accompaniment of various diseases, as well as of putrefaction, fermentation, and certain other phenomena. Some of the better known of these organisms are so exceedingly minute, that under the highest power of improved microscopes they appear no larger than the periods of ordinary type. Various classifications have been proposed for them, for they differ largely in size, form, and mode of multiplication.

Bacteriology, that branch of biology which treats of bacteria. The study of these microscopic organisms has developed into one of the most important branches of modern biological science. Their importance to mankind rests chiefly in the fact that their nourishment consists of albuminous substances, which they convert into complex chemical compounds, many of which are highly poisonous.

Bactria, a province of the ancient Persian empire, lying N. of the Paropamisus (Hindu Kush) Mountains, on the Upper Oxus. It corre-

sponded pretty nearly with the modern Balkh. Here many scholars locate the original home of the Aryan or Indo-European family of nations. Its capital, Bactra, or Zariaspa, was also the cradle of the Zoroastrian religion.

Baczko, Ludwig von, a German historian and scholar, born in Lick, Prussia, June 8, 1756; died March 27, 1823.

Badajoz, the fortified capital of the Spanish province of Badajoz, on the left bank of the Guadiana. It was besieged by Wellington on March 16, and taken April 6, 1812, by one of the most bloody assaults in history, the British charging over the dead bodies of their comrades.

Badakshan, a territory of Central Asia, tributary to the Ameer of Afghanistan. The inhabitants profess Mohammedanism. Pop. 100,000.

Badeau, Adam, an American military officer, born in New York city, Dec. 29, 1831; educated at private schools. He served with gallantry in the Union army during the Civil War; was on the staff of General Sherman in 1862–1863, and secretary to General Grant in 1864–1869; and in the latter year was retired with the rank of Captain in the regular army and of Brevet Brigadier-General of Volunteers, and was appointed Secretary of Legation in London. He was Consul-General in London, 1870–1881, and during this period was given leave of absence to accompany General Grant on his tour around the world (1877–1878). In 1882–1884 he was Consul-General in Havana. After the death of General Grant he brought suit against his heirs for payment of services which he asserted had been rendered in the preparation of General Grant's "Memoirs," but lost his case. He died in Ridgewood, N. J., March 19, 1895.

Baden, Grand Duchy of, one of the more important States of the German empire, situated in the S. W. of Germany, to the W. of Würtemberg. It is divided into four districts, Constance, Freiburg, Karlsruhe, and Mannheim; has an area of 5,823 square miles, and pop. 1,866,584. Baden sends three members to the German Bundesrath, or Federal Council, and 14 deputies to the Diet. Two-thirds of the population are Roman Catholics, the rest Protestants.

Baden-Baden, a town in the Grand Duchy of Baden; pop. (1900) 15,731. It is chiefly celebrated for its medicinal springs, which were known at the time of the Romans. Its gaming tables, the most renowned in Europe, were closed with the rest of the licensed German gaming houses in 1872.

Baden-Powell, Robert Stevenson Smyth, a British military officer; born in London, Feb. 22, 1857. In the war in South Africa in 1899–1902, he signally distinguished himself by his defense of Mafeking, Cape Colony. In recognition of his heroism, the queen promoted him to be a Major-General. See Boy Scouts.

Badeni, Count Cassimir Felix, an Austrian statesman; born in Poland, Oct. 14, 1846; Prime Minister of Austria-Hungary, 1895; died, 1909.

Badge, a distinctive device, emblem, mark, honorary decoration, or special cognizance, used originally to identify a knight or distinguish his followers, now worn as a sign of office or licensed employment, as a token of membership in some society, or generally as a mark showing the relation of the wearer to any person, occupation, or order.

Badger, a plantigrade, carnivorous mammal, allied both to the bears and to the weasels, of a clumsy make, with short, thick legs, and long claws on the fore feet. The species known are the American and European. The American badger is only found in the remote W. sections of the United States and in some parts of the British possessions in North America. It is more carnivorous than the European badger. The weight of the American species is from 14 to 18 pounds.

Badger, George Edmund, an American statesman, born in Newbern, N. C., April 13, 1795; was graduated at Yale College in 1813, and was a judge and U. S. Senator. He served in the State Convention called to pass on the question of secession, although oposed to that measure, and after making a strong speech in defense of the Union, was afterward known as a member of the

Conservative Party. He died in Raleigh, N. C., April 13, 1866.

Badger, Oscar L., an American naval officer, born in Windham, Conn., Aug. 12, 1823; entered the United States navy, Sept. 9, 1841; became Lieutenant-Commander, July 16, 1862; Commander, July 25, 1866; Captain, Nov. 25, 1872; Commodore, Nov. 15, 1881; and was retired Aug. 12, 1885. He served on the steamer "Mississippi" during the Mexican War, taking part in the attack on Alvarado, in 1846; led the party that attacked and destroyed the village of Vutia, Fiji Islands, while on the sloop "John Adams," in 1855–1856; and in the Civil War commanded the ironclads "Patapsco" and "Montauk," in the operations in Charleston harbor in 1863; and was Acting Fleet Captain on the flag ship "Weehawken" in the attack on Fort Sumter, Sept. 1, 1863. He died in Concord, Mass., June 20, 1899.

Badgley, Sidney Rose, a Canadian architect, born near Kingston, Ont., May 28, 1850. He has planned and erected churches in almost all parts of Canada and the United States.

Badham, Charles, an English educator, born in Ludlow, July 18, 1813; died in Sydney, Australia, Feb. 26, 1884.

Badlam, Stephen, an American military officer, born in Milton, Mass., March 25, 1748; entered the Revolutionary army in 1775; became commander of the artillery, in the Department of Canada. On the announcement of the adoption of the Declaration of Independence, he took possession of the heights opposite Ticonderoga, and named the place Mt. Independence. Subsequently he rendered good service at Fort Stanwix, and in 1799 was made Brigadier-General. He died in Dorchester, Mass., Aug. 24, 1815.

Bad Lands, tracts of land in the N. W. part of the United States. The absence of vegetation enables the rains to wash clean the old lake beds, and in many instances to disclose remarkable fossils of extinct animals. They were first called Bad Lands (mauvaises terres) by the French explorers in the region of the Black Hills in South Dakota.

Badminton, a popular game, closely resembling lawn tennis, played with battledore and shuttlecock on a rectangular portion of a lawn.

Badrinath, a peak of the main Himalayan range, in Garhwal district, Northwestern Provinces, India; 23,210 feet above the sea. On one of its shoulders, at an elevation of 10,400 feet, stands a celebrated temple of Vishnu, which some years attracts as many as 50,000 pilgrims.

Baedeker, Karl, a German publisher, born in 1801; originator of a celebrated series of guide-books for travelers. He died in 1859.

Baeyer, Adolf von, a German chemist, born in Berlin, Oct. 31, 1835; son of Johann Jakob Baeyer; became Professor of Chemistry at Strasburg in 1872, and at Munich, in 1875, succeeding Liebig at the latter. He made many important discoveries in organic chemistry, especially cerulein, eosin, and indol.

Baeyer, Johann Jakob, a Prussian geometrician, born in Müggelsheim, Nov. 5, 1794; died in Berlin, Sept. 10, 1885.

Baez, Buenaventura, a Dominican statesman, born in Azua, Haiti, about 1810; aided in the establishment of the Dominican Republic; was its President in 1849–1853; was then expelled by Santa Ana and went to New York city; was recalled in 1856, on the expulsion of Santa Ana, and again elected President; and was re-elected President in 1865 and 1868. During his last term, he signed treaties with the United States (Nov. 29, 1869), for the annexation of Santo Domingo to the United States, and for the cession of Samana Bay. The treaties failed of ratification in the United States Senate and caused the downfall of Baez. He died in Porto Rico, March 21, 1884.

Baffin, William, an English navigator and discoverer, believed to have been born in London about 1584. In 1615 he took service as pilot of the "Discovery," in search of a northwest passage, and made a careful examination of Hudson Strait. His recorded latitudes and notes of the tides are in remarkable agreement with those of a later date. In the following year, with Capt. By-

lot, he discovered, charted, and named Smith Sound, and several others, and explored the large inlet now associated with his name. His last voyages, 1616–1621, were to the East. At the siege of Ormuz, which the English were helping the Shah of Persia to recover from the Portuguese, he was killed, Jan. 23, 1622.

Baffin Land, a Canadian island, crossed by the Arctic Circle; area, 236,000 square miles.

Baffin Sea (erroneously styled a Bay), a large expanse of water in North America, between Greenland and the lands or islands N. of Hudson Bay. This sea was discovered by the English navigator, Baffin, in 1616, while in search of a passage to the Pacific Ocean.

Bagamoyo, a town of German East Africa, on the coast opposite the island of Zanzibar; pop. (1899), about 13,000. It is an important trading station for ivory, gum and caoutchouc.

Bagasse, the sugar cane in its dry, crushed state, as delivered from the mill, and after the main portion of its juice has been expressed; used as fuel in the sugar factory, and called also cane trash.

Bagatelle, a game played on a long, flat board, covered with cloth like a billiard-table, with spherical balls and a cue, or mace.

Bagby, George William, an American physician and humorist, born in Buckingham co., Va., Aug. 13, 1828; died in Richmond, Va., Nov. 29, 1883.

Bagdad, capital of the Turkish vilayet and city of the same name, in the southern part of Mesopotamia (now Irak Arabi). Bagdad was founded in 762, by the Caliph Almansur, and raised to a high degree of splendor, in the 9th century, by Haroun Al Raschid. It is the scene of a number of the tales of the "Arabian Nights." In the 13th century it was stormed by Hulaku, grandson of Genghis-Khan, who caused the reigning caliph to be slain, and destroyed the caliphate. The vilayet has an area of 54,503 square miles, and an estimated population of 850,000, and the city an estimated population of 145,000.

Bagdad, a town in Tamaulipas, Mexico, near the mouth of the Rio Grande; was of great importance during the Civil War to Confederate blockade runners.

Bagehot, Walter, an English writer on political economy and government, born in Langport, Somersetshire, Feb. 3, 1826; died in Langport, March 24, 1877.

Baggage, a term supposed to be derived from the old French word bague, meaning bundle. As ordinarily used, it includes trunks, valises, portmanteaus, etc., which a traveler carries with him on a journey.

Baggesen, Jens, a Danish poet; born in Korsör, Zealand, Feb. 15, 1764; died in Hamburg, Oct. 3, 1826.

Bagirmi, or **Baghermi,** a country in Central Africa, bounded on the W. by Bornu and a portion of Lake Tchad, and with the powerful Sultanate of Wadaï to the N. E. Its area is estimated at nearly 71,000 square miles. The country was first visited by Barth in 1852. Most of it was recognized as in the German sphere by the Anglo-German agreement of 1893; but it came under French control in 1900.

Bagley, Worth, an American naval officer, born in Raleigh, N. C., April 6, 1874; was graduated at the United States Naval Academy in 1895; promoted to Ensign, July 1, 1897, and was detailed as inspector to the new torpedo-boat "Winslow" in November following. This boat went into commission the next month, and he was appointed her executive officer. In April, 1898, the "Winslow" was assigned to the American fleet off the coast of Cuba, and on May 9, while on blockading duty at the harbor of Cardenas, with the "Wilmington" and "Hudson," drew the fire of several Spanish coast-guard vessels. All the American vessels escaped untouched. Two days afterward, the three vessels undertook to force an entrance into the harbor, when they were fired on by Spanish gunboats. The "Winslow" was disabled, and with difficulty was drawn out of range of the enemy's guns. The "Wilmington" then silenced the Spanish fire, and as the action closed, Ensign Bagley and four sailors on the "Winslow" were in-

stantly killed by a shell, he being the first American naval officer to fall in the war with Spain.

Bagpipe, a musical wind instrument of very great antiquity, having been used among the ancient Greeks for many ages, and is the favorite musical instrument of the Scottish Highlanders.

Bagration, Peter Ivanovich, Prince, a Russian general, descended from the royal family of the Bagratidæ of Georgia and Armenia, born in 1765. In the campaign of 1812, he commanded the Second Russian Army of the West. He was mortally wounded in the battle of Borodino, and died Oct. 7, 1812.

Bahama Channel, Old and **New,** two American channels; the former separates the Great Bahama Bank and Cuba; the latter, also called the Gulf of Florida, is between the Great and Little Bahama Banks and Florida, and forms a part of the channel of the great Gulf Stream, which flows here at the rate of from 2 to 5 miles an hour.

Bahama Islands, or **Lucayos,** a group of islands in the West Indies, forming a colony belonging to Great Britain, lying N. E. of Cuba and S. E. of the coast of Florida, the Gulf Stream passing between them and the mainland. They extend a distance of upward of 600 miles, and are said to be 29 in number, besides keys and rocks innumerable. Of the whole group about 20 are inhabited, the most populous being New Providence, which contains the capital, Nassau, the largest being Andros, 100 miles long, 20 to 40 broad. They are low and flat, and have in many parts extensive forests. Total area, 5,450 square miles. Pop. (1901) 53,735.

Bahia, formerly San Salvador, a city of Brazil, on the Bay of All Saints, in the State of Bahia. The harbor is one of the best in South America; and the trade, chiefly in sugar, cotton, coffee, tobacco, hides, piassava, and tapioca, is very extensive. Pop. 174,412. The State, area, 164,649 square miles; pop. about 2,000,000, has much fertile land, both along the coast and in the interior.

Bahia Honda, a seaport of Cuba, on the coast of the Gulf of Mexico, and lying on a small bay, bearing the same name. The town and bay are about 50 miles W. of Havana, being commanded by a small fort.

Bahr, Johann Christian Felix, a German philologist, born at Darmstadt, June 13, 1798; died Nov. 29, 1872.

Bahrein Islands, a group of islands in the Persian Gulf, in an indentation on the Arabian coast. The Bahrein Islands are chiefly noted for their pearl-fisheries, which were known to the ancients, and which employ in the season from 2,000 to 3,000 boats with from 8 to 20 men each. Total pop., est. at 70,000.

Bahr-el-Ghazal, the name of the old Egyptian province which incloses the district watered by the southern tributaries of Bahr-el-Arab and Bahr-el-Ghazal. It is said to be a good cotton-growing country, and abounds in timber. Slatin Pasha has drawn attention both to the fertility of the province and to its strategical importance. To the W. of it lies the Ubangi district of French Kongo; and it was thence that Major Marchand made his way through the Bahr-el-Ghazal to Fashoda in the summer of 1898.

Bahr Yusuf, or **Bahr el Yusuf,** an artificial irrigation channel from the left bank of the Nile below Sint. to the Fayum; 270 miles long. According to Koptic traditions it was constructed during Joseph's administration.

Baikal, an extensive lake of Eastern Siberia; crescent-shaped, and surrounded by high and wild mountains rising 3,000 to 4,000 feet above its surface. Length, S. W. to N. E., 370 miles; breadth, 20 to 70 miles; altitude, about 1,400 feet; greatest ascertained depth, 4,500 feet; average depth of its southern part, about 800 feet.

Bail. (1) Of persons: Those who stand security for the appearance of an accused person. The word is a collective one, and not used in the plural. They were so called because formerly the person summoned was baillé, that is, given into the custody of those who were security for his appearance.

(2) Pecuniary security given by responsible persons that an individual charged with an offense against the law will, if temporarily released, surrender when required to take his trial.

Bailey, Gamaliel, an American journalist, born in Mount Holly, N. J., Dec. 3, 1807; with J. G. Birney, founded the anti-slavery journal, the "Cincinnati Philanthropist" (1836), the office of which was destroyed by a mob, though it continued to be published till 1847. He established the well-known newspaper, the Washington "National Era" (1847), in which the famous novel, "Uncle Tom's Cabin," appeared first. He died at sea, June 5, 1859.

Bailey, Jacob Whitman, an American scientist, born in Auburn, Mass., April 29, 1811; was graduated at the United States Military Academy, in 1832; and from 1834 till his death was Professor of Chemistry, Mineralogy and Geology at the Military Academy. He was the inventor of the Bailey indicator and of many improvements in the microscope, in the use of which he achieved high distinction; and he is regarded as the pioneer in microscopic investigation. He was President of the American Association for the Advancement of Science in 1857; held membership in the principal scientific associations of the world; and was the author of numerours papers on the results of his researches. He died in West Point, N. Y., Feb. 26, 1857.

Bailey, James Montgomery, an American author, born in Albany, N. Y., Sept. 25, 1841; died in Danbury, Conn., March 4, 1894.

Bailey, Joseph, an American military officer, born in Salem, O., April 28, 1827; entered the Union army as a private in 1861, and signally distinguished himself in the Red River campaign under Gen. N. P. Banks, in 1864, by building a dam and deepening the water in the channel, which enabled Admiral Porter's Mississippi flotilla to pass the Red River rapids in safety, and so escape a perilous situation. For this engineering feat, Bailey, who, before entering the army was a plain farmer, was breveted Brigadier-General, promoted Colonel, voted the thanks of Congress, and presented by the officers of the fleet with a sword and purse of $3,000. Subsequently, he was promoted to full Brigadier-General, and was engaged on engineering duty till his resignation, July 7, 1865. He died in Nevada, Mo., March 21, 1867.

Bailey, Liberty Hyde, an American horticulturist and editor, born in South Haven, Mich., March 15, 1858; became chairman of the Roosevelt Commission on Country Life in 1908.

Bailey, Philip James, an English poet, born in Nottinghamshire, April 22, 1816; died Sept. 6, 1902.

Bailey, Samuel, an English political and mental philosopher, born in Sheffield, in 1791; died in 1870.

Bailey, Theodorus, an American naval officer, born in Chateaugay, N. Y., April 12, 1805; entered the navy in 1818; served on the W. coast of Mexico during the Mexican War; commanded frigate "Colorado," of the Western Gulf Blockading Squadron, in 1861–1862; and in the last year commanded the right column of Admiral Farragut's squadron in the passage of Forts St. Philip and Jackson, and led the fleet at the capture of the Chalmette batteries and the city of New Orleans. In 1862–1865 he commanded the East Gulf Blockading Squadron. He was commissioned Rear-Admiral and retired in 1866. He died in Washington, D. C., Feb. 10, 1877.

Bailey, Vernon, an American scientist, born in Manchester, Mich., June 21, 1863; received a university education; and became chief field naturalist of the United States Biological Survey.

Bailey, William Whitney, an American botanist, born in West Point, N. Y., Feb. 22, 1843. He was educated at Brown and Harvard, having been a pupil of Prof. Asa Gray. In 1867 he was botanist of the United States Geological Survey of the 40th parallel; in 1867–1869 assistant librarian of the Providence Athenæum. He was appointed Instructor in Botany at Brown University in 1877, and became professor there in 1881.

Bailiff, essentially a person intrusted by a superior with power of superintendence. In the United States the word bailiff has no precise mean-

ing. The term is most frequently used to denote a court officer whose duty it is to take charge of juries and wait upon the court.

Baillie, Joanna, a Scotch author; born in Bothwell, near Glasgow, Sept. 11, 1762; died Feb. 23, 1851.

Baillie, Robert, the "Scottish Sidney," was a native of Lanarkshire, who first came into notice in 1676 through his rescue of a brother-in-law, the Rev. Mr. Kirkton, from the clutches of Archbishop Sharp's principal informer. In 1683 he took a prominent part in a scheme of emigration to South Carolina, as he saw no other refuge from the degrading tyranny of the government. Accused of conspiring against the King's life, and of hostility to monarchical government, he was tried at Edinburgh and condemned to death upon evidence at once insignificant and illegal. The sentence was carried into execution on the very day that it was passed, Dec. 24, 1684.

Bailly, Jean Sylvain, a French astronomer and statesman, born in Paris, Sept. 15, 1736. The Revolution drew him into public life. As mayor of Paris his moderation and impartial enforcement of the law failed to commend themselves to the people, and his forcible suppression of mob violence, July 17, 1791, aroused a storm which led to his resignation. He was condemned by the Revolutionary Tribunal, and executed on Nov. 12, 1793.

Bailment, "a delivery of a thing in trust for some special object or purpose, and upon a contract, express or implied, to conform to the object or purpose of the trust." (Story, on "Bailment.") The party who delivers the thing bailed to another is called the bailor; the one receiving it is called bailee. Various degrees of diligence are required of the bailee, according to the nature of the bailment.

Baily, Edward Hodges, an English sculptor, born at Bristol in 1788. He died in London in 1867.

Bain, Alexander, a Scotch writer on mental philosophy and education, born in Aberdeen in 1818. His most important works are "The Senses and the Intellect" (1855); "The Emotions and the Will" (1859), together forming a complete exposition of the human mind. He died Sept., 1903.

Bain, Alexander, a Scotch electrician, born in Watten, Caithness, in 1810; went to London and began a series of electrical experiments in 1837; invented electric fire alarm and sounding apparatus, and the automatic chemical telegraph by which high speed telegraphy was for the first time possible. He died in 1877.

Bainbridge, William, an American naval officer, born in Princeton, N. J., May 7, 1774; became a Captain in 1800; and commanded the frigate "Philadelphia" in the war against Tripoli. In 1812 he was given command of a squadron including the "Constitution," "Essex," and "Hornet." With the "Constitution" as his flagship, he conquered, in December of that year, the British frigate "Java," carrying 49 guns. Later he commanded a squadron in the Mediterranean, and was afterward stationed at various American coast cities. He died in Philadelphia, July 28, 1833.

Bairaktar (more correctly Bairak-dar), signifying "standard bearer," the title of the energetic Grand Vizier Mustapha. Born in 1755, of poor parents, he entered the military service at an early age, and rose to high command. He deposed the Sultan Mustapha IV., and when the Janissaries revolted, demanding Mustapha's restoration, and besieged the seraglio, Bairaktar defended himself bravely. When he saw that the flames threatened to destroy the palace, and that he was in danger of falling alive into his enemies' hands, he strangled Mustapha, threw his head to the besiegers, and then blew himself up.

Bairam, the name of the only two festivals annually celebrated by the Turks and other Mohammedan nations. The first closes the fast of the month Ramadhan or Ramazan. The second commemorates Abraham's offering of Isaac.

Baird, Absalom, an American military officer, born in Washington, Pa., Aug. 20, 1824; was graduated at the United States Military Academy and assigned to the artillery in 1849. He became Captain and Major in the regular army in 1861, and in the volunteer army was commissioned a

Brigadier-General, April 28, 1862, and brevetted Major-General, September 1864, for his conduct in the Atlanta campaign. On March 13, 1865, he was brevetted Major-General, United States army, for his meritorious services in the field during the war. In 1885, he was promoted Brigadier-General and Inspector-General, United States army, and in 1888 was retired. He died July 14, 1905.

Baird, Charles Washington, an American historian and religious writer, son of Robert Baird; born at Princeton, N. J., Aug. 28, 1828; died in Rye, N. Y., Feb. 10, 1881.

Baird, Henry Carey, an American political economist, nephew of Henry C. Carey, born in Bridesburg, Pa., in 1825. He is a publisher at Philadelphia. A protectionist, his economical views generally are similar to those of his distinguished uncle. He has written numerous economic pamphlets.

Baird, Henry Martyn, an American author and educator, born in Philadelphia, Pa., 1832; died 1906.

Baird, Robert, an American historian, born in Fayette county, Pa., Oct. 6, 1798; died at Yonkers, N. Y., March 15, 1863.

Baird, Spencer Fullerton, a distinguished American naturalist, born at Reading, Pa., Feb. 3, 1823. His writings cover nearly every branch of natural history. He died at Wood's Holl, Mass., Aug. 19, 1887.

Baireuth, or **Bayreuth,** a city and capital of the Bavarian province of Upper Franconia, 43 miles N. N. E. of Nuremberg by rail. A magnificent National theater for the performance of Wagner's music, finished in 1875, was in the following year opened with a grand representation of his Nibelungen trilogy. On Feb. 14, 1883, the great master (who died in Venice) was buried in the garden of his villa here.

Baize, a sort of coarse woolen fabric with a rough nap, now generally used for linings, and mostly green or red in color.

Bajazet, or **Bayazeed, I.,** an Ottoman Sultan, born 1347, succeeded his father, Amurath I., in 1389. He was the first of his family who assumed the title of Sultan. After defeating Hungarians, Germans, and French at Nicopoli, on the Danube, Sept. 28, 1396, Bajazet is said to have boasted that he would feed his horse on the altar of St. Peter at Rome. His progress, however, was arrested by a violent attack of the gout. Bajazet was preparing for an attack on Constantinople, when he was interrupted by the approach of Timur the Great, by whom he was defeated at Angora, in Anatolio, July 28, 1402. He was taken captive, and died about nine months afterward, at Antioch in Pisidia. He was succeeded by Mohammed I. Modern writers reject as a fiction the story of the iron cage in which Bajazet was said to have been imprisoned.

Baker, Sir Benjamin, an English engineer, born near Bath, in 1840. In 1877 he superintended the removal of Cleopatra's Needle from Egypt to London. In conjunction with Sir John Fowler he drew the plans for the great bridge over the Firth of Forth. He died May 19, 1907.

Baker, Benjamin W., an American educator, born in Coles county, Ill., Nov. 25, 1841; was brought up on a farm; served in the Union army through the Civil War; was graduated at the Illinois State Normal University in 1870; became a Methodist Episcopal clergyman in 1874; and was financial secretary of the Illinois Wesleyan University in 1883–1893; president of Chaddock College in 1893–1898; of the Missouri Wesleyan College in Cameron, in 1898–1906; then pastor in Florida.

Baker, Edward Dickerson, an American soldier and politician, born in London, England, Feb. 24, 1811; came to the United States in youth. He was elected to the Illinois Legislature in 1837, became a State Senator in 1840, and was sent to Congress in 1844. He served under General Scott in the war with Mexico and was elected United States Senator from Oregon in 1860. He entered the Federal army at the outbreak of the Civil War, and was killed at the battle of Ball's Bluff, Oct. 21, 1861.

Baker, Frank, an American zoölogist; was graduated in the medical department of Columbian University in 1880; was Professor of Anatomy in the University of Georgetown; and

became superintendent of the National Zoölogical Park, in Washington, D. C., in 1900.

Baker, Harriette Newell (Woods) (pseudonyms "Madeline Leslie" and "Aunt Hatty"), an American writer of juvenile stories, born in 1815. She was a daughter of Rev. Leonard Woods and wife of Rev. Abijah R. Baker; died in 1893.

Baker, John Gilbert, an English botanist, born in Guisbrough, Yorkshire, Jan. 13, 1834; was appointed assistant curator at the herbarium at Kew in 1866. His voluminous writings include works on the flora of districts so diverse as the North of England, Madagascar, and Brazil.

Baker, Lafayette C., an American detective, born in Stafford, N. Y., Oct. 13, 1826; was chief of the Secret Service Bureau during the Civil War; and reached the military rank of Brigadier-General. He superintended the pursuit of Wilkes Booth, President Lincoln's assassin. He died at Philadelphia, Pa., July 2, 1868.

Baker, Marcus, an American cartographer, born in Kalamazoo, Mich., Sept. 23, 1849; was graduated at the University of Michigan in 1870; became connected with the United States Coast and Geodetic Survey, in 1873, and with the United States Geological Survey, in 1886; and was made secretary of the United States Board on Geographic Names. He was cartographer to the Venezuela Boundary Commission, and after spending many years surveying and exploring in Alaska and along the Pacific coast, prepared, with William H. Dall, the "Alaska Coast Pilot."

Baker, Osmon Cleander, an American clergyman, born in Marlow, N. H., July 30, 1812; was educated at Wesleyan University; spent several years in teaching. He was one of the founders of the system of Methodist Episcopal Theological schools. He was professor in the Biblical Institute in Concord, N. H., in 1847–1852, and in the last year was elected a bishop of the Church. He died in Concord, N. H., Dec. 20, 1871.

Baker, Sir Samuel White, a distinguished English traveler; born in London, June 8, 1821. He was trained as an engineer, and at the age of 24 he went to Ceylon, where he founded an agricultural settlement at Nuwara Eliya in 1847. In the early part of 1861, accompanied by his (second) wife, he set out for Africa on a journey of exploration. When he had ascended the Nile as far as Gondokoro he met Speke and Grant returning after their discovery of the Victoria Nyanza lake, and learned from them that another large lake in the district had been spoken of by the natives. This lake he determined to discover, and after many adventures he and his wife beheld the Albert Nyanza from a height on March 14, 1864. On his return home he was received with great honor and was knighted. In 1869 he returned to Africa as head of an expedition sent by the Khedive of Egypt to suppress the slave trade and to annex and open up to trade a large part of the newly explored country, being raised to the dignity of pasha. He returned home in 1873, having finished his work, and was succeeded by the celebrated Gordon. In 1879 he explored the island of Cyprus, and subsequently he traveled in Asia and America. He died Dec. 30, 1893.

Baker, William Bliss, an American artist, born in New York in 1859, and is especially noted for his landscapes. He died in Ballston, N. Y., in 1889.

Baker, Mount, an occasionally active volcano in Whatcom county, Wash., belonging to the Cascade Range; very active in 1880; height 10,827 ft.

Baker's Dozen, a familiar phrase said to have originated in an old custom of bakers who, when a heavy penalty was inflicted for short weight, used to give a surplus to avoid all risk of incurring a fine.

Baking Powder, a mixture of bicarbonate of soda and tartaric acid, usually with some flour added. The water of the dough causes the liberation of carbonic acid, which makes the bread 'rise.'

Bakony Wald, a thickly-wooded mountain range dividing the Hungarian plains, famous for the herds of swine fed on its mast.

Bakshish, an Eastern term for a present or gratuity. A demand for bakshish meets travellers in the East everywhere from Egypt to India.

Baku, a Russian port on the W. shore of the Caspian, occupying part of the peninsula of Apsheron, and a noted centre of oil production. Some of the wells have had such an outflow of oil as to be unmanageable, and the Baku petroleum now competes successfully with any other in the markets of the world. Baku is the station of the Caspian fleet, is strongly fortified, and has a large shipping trade. Pop. 112,253.

Bakunin, Michael, a Russian anarchist, the founder of Nihilism, born in 1814 of rich and noble family. Wherever he went, he was influential for disturbance, and after undergoing imprisonment in various States, was handed over to Russia, in 1851, by Austria, imprisoned for five years, and finally set to Siberia. Escaping thence through Japan, he joined Herzen in London, on the staff of the "Kolokol." His extreme views, however, ruined the paper and led to a quarrel with Marx and the International; and having fallen into disrepute with his own party in Russia, he died suddenly and almost alone at Berne, in 1878. He demanded the entire abolition of the State as a State, the absolute equalization of individuals, and the extirpation of hereditary rights and of religion, his conception of the next stage of social progress being purely negative and annihilatory.

Balaam, a heathen seer, invited by Balak, King of Moab, to curse the Israelites, but compelled by miracle to bless them instead (Num. xxii–xxiv).

Balæna, the genus which includes the Greenland, or right whale, type of the family balænidæ, or whale-bone whales.

Balæniceps, a genus of wading birds, belonging to the Sudan, intermediate between the herons and storks, and characterized by an enormous bill, broad and swollen, giving the only known species (also called shoe-bird) a peculiar appearance.

Balænidæ, the true whales, the most typical family of the order cetacea and the suborder cete. They are known by the absence of teeth and the presence in their stead of a horny substance called whale-bone, or baleen.

Balænoptera, fin-back whales. A genus of balænidæ, characterized by the possession of a soft, dorsal fin, and by the shortness of the plates of baleen. Balænoptera boops is the northern rorqual, or fin-fish, called by sailors the finner. It is the largest of known animals, sometimes reaching 100 feet in length.

Balaklava, a small seaport in the Crimea, 8 miles S. S. E. Sebastopol. In the Crimean War it was captured by the British, and a heroically fought battle took place here (Oct. 25, 1854), ending in the repulse of the Russians by the British. The charge of the Light Brigade was at this battle.

Balance, an instrument employed for determining the quantity of any substance equal to a given weight.

Balance Electrometer, an instrument invented by Cuthbertson for regulating the amount of the charge of electricity designed to be sent through any substance.

Balance of Power, a political principle which first came to be recognized in modern Europe in the 16th century, though it appears to have been also acted on by the Greeks in ancient times, in preserving the relations between their different States. The object in maintaining the balance of power is to secure the general independence of nations as a whole, by preventing the aggressive attempts of individual States to extend their territory and sway at the expense of weaker countries. The continued existence of Turkey as a European State has long been due to the operation of this policy among the Christian governments of Europe.

Balance of Trade, a term formerly used by political economists to signify an excess of imports over exports, or of exports over imports in the foreign trade of a country, which required to be balanced by an export or import of the precious metals.

Balata, the product of the bullet-tree — its milk or juice, in fact — which is a large forest tree, ranging from Jamaica and Trinidad to Venezuela and Guiana. The tree grows to a height of 120 feet, and has a large, spreading head. A tree of average size yields three pints of milk. The milk is dried in hollow wooden trays. When it is sufficiently dry it is re-

moved from the trays in strips and hung up on lines to harden.

Balbo, Count Cæsare, an Italian author, born at Turin, in 1789. He is chiefly remarkable from the fact that his first important work, "Le Speranze d'Italia," published in 1844, may be regarded as having given the programme of the Moderate Party of Italian politics, and as having together with the writings of d'Azeglio, Durando, and others, created the Liberal Party, in opposition to the Republican Party as represented by Mazzini. Balbo was an accomplished historian and translator. He died in June, 1853.

Balboa, Vasco Nunez de, a celebrated Spanish discoverer, born at Xeres de los Caballeros, in 1475. He accompanied Rodrigo de Bastidas in his expedition to the New World, and first settled in Haiti (or, as it was then termed, Hispaniola). Though an adventurer in search of fortune, his great ambition seems to have been to extend the boundaries of geographical knowledge, and especially to be able to announce to Europe the existence of another great ocean. On Sept. 1, 1513, he began his perilous enterprise. Accompanied by a small band of followers, he began to tread the almost impenetrable forests of the Isthmus of Darien, and, guided by an Indian chief, named Ponca, clambered up the rugged gorges of the mountains. At length, after a toilsome and dangerous journey, Balboa and his companions approached, on Sept. 25, the summit of the mountain range, when Balboa, leaving his followers at a little distance behind, and advancing alone to the W. declivity, was the first to behold the vast unknown ocean, which he afterward took solemn possession of in the name of his sovereign, and named it the Pacific Ocean, from the apparent quietude of its waters. Surrounded by his followers, he walked into it, carrying in his right hand a naked sword, and in his left the banner of Castile, and declared the sea of the South, and all the regions whose shores it bathed, to belong to the crown of Castile and Leon. During his absence, however, a new governor had been appointed to supersede Balboa in Haiti; where, on his return, jealousy and dissensions springing up between them, Balboa, accused of a design to rebel, was beheaded in 1517, in violation of all forms of justice.

Balcony, a gallery or projecting framework of wood, iron or stone, in front of a house, generally on a level with the lower part of the windows in one or more floors.

Baldachin, a structure in form of a canopy, supported by columns, and often used as a covering for insulated altars.

Bald Mountain, the name of several eminences in the United States, of which the following are the principal: (1) In Colorado, height, 11,493 feet; (2) in California, height, 8,295 feet; (3) in Utah, height, 11,976 feet; (4) in Wyoming, in the Wind River Range, height, 10,760 feet; and, (5) in North Carolina, height 5,550 feet. The last one was the cause of much excitement in May, 1878, because of inexplicable rumblings which lasted for about two weeks. The mountain shook as if in the throes of an earthquake, immense trees and rocks were hurled down its sides, and, for a time, fears were entertained lest a volcanic eruption should follow. A subsequent examination showed that a large section of the mountain had been split asunder, but no further disturbance occurred.

Baldness, an absence of hair on the head. Congenital baldness (complete absence of hair at birth) is sometimes met with; but, in most cases, is only temporary, and gives place, in a few years, to a natural growth of hair. Occasionally, however, it persists through life. Senile baldness (calvities) is one of the most familiar signs of old age. It commences in a small area at the crown, where the natural hair is first replaced by down before the skin becomes smooth and shining. From this area the process extends in all directions. It is more common in men than women. A precisely similar condition occurs not unfrequently at an earlier age (presenile baldness). It is generally due to hereditary tendency; but is favored by keeping the head closely covered, especially with a waterproof cap. The best author-

ities agree that this form of baldness is incurable.

Great loss of hair frequently follows severe illnesses or other causes which produce general debility. As health returns, the hair usually returns with it.

Baldric, a broad belt formerly worn over the right or left shoulder diagonally across the body, often highly decorated and enriched with gems, and used not only to sustain the sword, dagger, or horn, but also for purposes of ornament, and as a military or heraldic symbol. The fashion appears to have reached its height in the 15th century. In the United States it now forms a part of the uniform of Knights Templar and other fraternal organizations.

Baldwin, the name of a long line of sovereign Counts of Flanders, of whom the most celebrated was Baldwin IX., who became, afterward, Emperor of Constantinople, under the name of Baldwin I.

Baldwin II., the last Frank Emperor of Constantinople, born in 1217. He was the son of Pierre de Courtenay, and succeeded his brother Robert in 1228. Driven from his throne he died in obscurity in 1273.

Baldwin, Charles H., an American naval officer, born in New York city, Sept. 3, 1822. He entered the navy as a midshipman, in 1839. Serving on the frigate "Congress" during the war with Mexico, he figured in several sharp encounters near Mazatlan. He commanded the steamer "Clifton" at the passage of Forts Jackson and St. Philip, and at the first attack on Vicksburg. He became Rear-Admiral in 1883, receiving the command of the Mediterranean Squadron. He died in New York city, Nov. 17, 1888.

Baldwin, Frank D., an American military officer; born in Michigan, June 26, 1842; entered the volunteer army in 1861 and the regular army in 1866; became colonel of the 4th United States Infantry, July 26, 1901; and was promoted Brigadier-General, U. S. A., June 9, 1902. He was awarded a Congressional medal of honor for service at the battle of Pine Tree Creek, Ga., July 20, 1864, and another for gallantry in an action against Indians in Texas. He greatly distinguished himself in the Philippines, in the early part of 1902.

Baldwin, James Mark, an American psychologist, born in Columbia, S. C., Jan. 12, 1861; educated at Princeton College, Leipsic, Berlin, and Tubingen Universities; President of the American Psychological Association in 1897–1898.

Baldwin, John Denison, an American journalist, politician, poet, and writer on archæology, born at North Stonington, Conn., Sept. 28, 1809; died at Worcester, Mass., July 8, 1883.

Baldwin, Maurice Scollard, a Canadian clergyman, born in Toronto, June 21, 1836; was graduated at Trinity College in that city, in 1862; became rector of St. Luke's Church in Montreal; was Dean of Montreal in 1882–1883; and in the last year was made Bishop of Huron.

Baldwin, Theodore A., an American military officer, born in New Jersey, Dec. 21, 1839; entered the army as a private, May 3, 1862, and served in that grade and as quartermaster's sergeant in the 19th United States Infantry, till May 31, 1865, when he became First Lieutenant. He was promoted Captain, July 23, 1867; Major of the 7th Cavalry, Oct. 5, 1887; Lieutenant-Colonel of the 10th Cavalry, Dec. 11, 1896; and Colonel of the 7th Cavalry, May 6, 1899. From Oct. 6, 1898, till Jan. 31, 1899, he served as a Brigadier-General of Volunteers.

Balearic Islands, a group of islands, S. E. of Spain, including Majorca, Minorca, Iviza, and Formentera. The islands form a Spanish province, with an area of 1,860 square miles; pop. 306,926.

Baleen, whale-bone, in the rough or natural state.

Bale-Fire, in its older and strict meaning, any great fire kindled in the open air, or in a special sense, the fire of a funeral pile. It has frequently been used as synonymous with beacon-fire, or a fire kindled as a signal, Sir Walter Scott having apparently been the first to use the term in this sense.

Balen, Hendrik van, painter, born at Antwerp, in 1560. His works, chiefly classical, religious, and allegorical — some of them executed in part-

nership with Breughel — are to be found in most of the leading galleries. Three of his sons also followed the art, but the best of them, John van Balen (1611–1654), was inferior to his father. He died in 1632.

Baler, a town in the N. E. part of Luzon, Philippine Islands, on the Pacific coast. The population is several thousand, mostly natives. The most conspicuous edifice is a native Catholic church. The town is noted for the heroic defense of a Spanish garrison in 1899, during a siege by the Filipinos, lasting 11 months. The Spaniards were commanded by Lieut. Saturnino Martin Cerezo, who refused to surrender the town even when directed to do so by his superiors in Manila. He entrenched himself in the church and heroically resisted the besiegers until his supplies gave out, when he surrendered with all the honors of war, July 2, 1899. Baler was occupied by the American troops and garrisoned with two companies of the 34th Volunteer Infantry, under Major Shunk, in March, 1900.

Bales, Peter, a famous caligrapher, born in 1547. He was one of the early inventors of shorthand. He died about 1610.

Balestier, Charles Wolcott, an American novelist, born in Rochester, N. Y., Dec. 13, 1861; studied in Cornell University; and became connected with a New York publishing house. He was brother-in-law of Rudyard Kipling. He died in Dresden, Saxony, Dec. 6, 1891.

Balfe, Michael William, composer, was born in Dublin, May 15, 1808. His musical talent received early culture, and in his ninth year he made his debut as a violinist, having begun to compose at least two years earlier. In 1826 he wrote the music for a ballet, "La Perouse," performed at Milan; and in 1827 he sang in the Italian Opera at Paris with great applause, his voice being a pure, rich baritone. In 1833 he returned to England, and in 1846 was appointed conductor of the London Italian Opera. He died at Rowley Abbey, his estate in Hertfordshire, Oct. 20, 1870.

Balfour, Sir Andrew, a Scottish botanist and physician, born in Fifeshire, in 1630. He planned with Sir Robert Sibbald, the Royal College of Physicians at Edinburgh, and was elected its first President.

Balfour, Arthur James, a British statesman; born in Scotland, July 25, 1848; educated at Eton and at Trinity College, Cambridge; entered Parliament in 1874; was private secretary to his uncle, the Marquis of Salisbury, in 1878–1880, and accompanied him to the Berlin Congress; was member of Parliament for Hertford in 1879, and for the East Division of Manchester in 1885; president of the Local Government Board in 1885; Secretary for Scotland in 1886; with a seat in the Cabinet; Lord Rector of St. Andrew's University in 1866; Secretary for Ireland in 1887–1891; member of the Gold and Silver Commission in 1887–1888; Lord Rector of Glasgow University in 1890; Chancellor of Edinburgh University in 1891; First Lord of the Treasury in 1891–1892; became the leader of the Conservative opposition in the House of Commons in 1892. In 1895 he again became First Lord of the Treasury and leader of the House. He was an effective speaker. As Chief Secretary for Ireland, he was successful. He passed the Crimes Act and Law Act, secured a free grant for railways, made a tour of investigation and created the Congested Districts Board. On the resignation of Lord Salisbury, Mr. Balfour became prime minister, July 12, 1902. In September, 1903, Mr. Balfour was the author of a pamphlet on the subject of "Insular Free Trade," in which he attempts to prove to the people of Great Britain that there must be a change in the fiscal policy of the empire in favor of retaliatory tariffs, unless the subjects of the King desire to see commerce lost and manufactures practically destroyed. The pamphlet caused a sensation as the first blow at British free trade from a British premier.

Balfour, Nesbit, a British military officer, born in Dunbog, Scotland, in 1743; was promoted Lieutenant-General in 1798 and General in 1803; distinguished himself during the American Revolution; was wounded in the battle of Bunker Hill; fought at the battles of Elizabethtown, Brandywine, Germantown, and Long Island; and was present at the capture of

New York. He was appointed commandant at Charlestown, in 1779. He died in Dunbog, in October, 1823.

Bali, an island of the Indian Archipelago E. of Java, belonging to Holland; greatest length, 85 miles, greatest breadth, 55 miles; area, about 2,260 square miles. It is divided into eight provinces under native rajahs, and forms one colony with Lombok, the united population being estimated at 1,044,757.

Baliol, or Balliol, John, King of Scotland; born about 1249. On the death of Margaret, the Maiden of Norway, and grandchild of Alexander III., Baliol claimed the vacant throne by virtue of his descent from David, Earl of Huntington, brother to William the Lion, King of Scotland. Robert Bruce (grandfather of the King) opposed Baliol; but Edward I.'s decision was in favor of Baliol, who did homage to him for the kingdom, Nov. 20, 1292. Irritated by Edward's harsh exercise of authority, Baliol concluded a treaty with France, then at war with England; but, after the defeat at Dunbar he surrendered his crown into the hands of the English monarch. He was sent with his son to the Tower, but, by the intercession of the Pope, in 1297, obtained liberty to retire to his Norman estates, where he died in 1315. His son, Edward, in 1332, landed in Fife with an armed force, and having defeated a large army under the Regent Mar (who was killed), got himself crowned King, but was driven out in three months.

Baliol College, Oxford, founded between 1263 and 1268 by John de Baliol, father of John Baliol, King of Scotland.

Balista, or Ballista, a machine used in military operations by the ancients for hurling heavy missiles, thus serving in some degree the purpose of the modern cannon. They are said to have sometimes had an effective range of a quarter of a mile, and to have thrown stones weighing as much as 300 lbs. The balistæ differed from the catapultæ, in that the latter were used for throwing darts.

Balkan Peninsula, a region in Europe named from the Balkan Mountains; between the Adriatic and Ionian Seas on the W., and the Black Sea, Sea of Marmora, and Ægean Sea on the E.; comprising Bulgaria, Servia, Montenegro, Roumania, Eastern Rumelia, European Turkey, and Greece; area, about 200,000 square miles; pop. est. 17,000,000, about half Slavs. This region was the scene of a war declared by Bulgaria, Montenegro, Servia, and Greece against Turkey and by Turkey against these allies in mid-October, 1912. Hostilities began with the declarations of war, and on Nov. 3, beaten at every point, Turkey sued for peace through the Powers.

Balkh, a district of Afghan Turkestan, the most northerly province of Afghanistan.

Balkhash (Kirghiz Tengis; Chinese Sihai), a great inland lake, near the E. border of Russian Central Asia, between 44° and 47° N. lat., and 73° and 79° E. long. Lying about 780 feet above sea level, it extends 323 miles W. S. W.; its breadth at the W. end is 50 miles; at the E. from 9 to 4 miles; the area is 8,400 square miles. Its principal feeder is the river Ili. It has no outlet.

Ball, Ephraim, an American inventor, born in Greentown, O., Aug. 12, 1812; was brought up in the carpenter's trade; in 1840 established a foundry for making plow castings; invented a plow, a turn-top stove, the Ohio mower, the World mower and reaper, the Buckeye machine, and the New American harvester; and for many years before his death had an extensive manufacturing plant at Canton. He died in Canton, O., Jan. 1, 1872.

Ball, John, a priest, was one of the leaders in the rebellion of Wat Tyler, and was in several respects a precursor of Wyclif, having been repeatedly in trouble for heresy from 1366. He was hanged, drawn, and quartered in 1381.

Ball, Sir Robert Stawell, an English astronomer, born in Dublin, July 1, 1840; studied at Trinity College. He was knighted Jan. 25, 1886.

Ball, Thomas, an American sculptor, born in Charlestown, Mass., June 3, 1819. His best known works are the equestrian statue of Washington, in Boston; the Webster statue in Central Park, New York, and "Emancipation," in Washington, D. C.

Ballad, a narrative song, from the French ballade, Italian ballata, an old kind of song of a lyric nature. Ballata is derived from ballare, to dance.

Ballantine, James, a Scottish artist and poet, born in Edinburgh, June 11, 1808; was brought up as a house painter, but afterward learned drawing under Sir William Allen, and was one of the first to revive the art of glass painting. He was commissioned to execute the stained glass windows for the House of Lords. He died Dec. 18, 1877.

Ballantine, William Gay, an American educator, born in Washington, D. C., Dec. 7, 1848; and President of Oberlin College in 1891–1896. Dr. Ballantine was one of the editors of the "Bibliotheca Sacra," in 1884–1891.

Ballarat, or **Ballaarat,** an Australian town in Victoria, chief center of the gold mining industry of the State.

Ballinger, Richard Achilles, an American lawyer; born in Boonesboro, Ia., July 9, 1858; admitted to the bar in 1886; Commissioner of the General Land Office in 1907–1909; then became Secretary of the Interior. His controversy with Gifford Pinchot, Chief Forester, and other officials, on conservation interests in Alaska, led to a Congressional investigation in 1910.

Balloon. See AERONAUTICS; AEROPLANE; FLYING MACHINE.

Ballot, a means of expressing an individual choice for a public or other officer, or a measure of public importance; the medium through which a voter indicates his preference at an election.

The term ballot, at a club or private election, is applied to a ball used for the purpose of voting. In casting a ball for or against an individual, the arrangement sometimes is that if the vote be designed in his favor, then a white ball is used, but if it be intended to be against him, then one of a black color is used — whence the phrase "to blackball one." Other methods, however, may be adopted; thus, a ball of any color put through a hole into one drawer may indicate a favorable vote, and into another an unfavorable one.

The ballot, as a political institution, is known from early times, having been made use of in ancient Greece and Rome. At Athens, the verdicts given in the courts by the dicasts were indicated by balls of stone or metal, black or pierced balls indicating condemnation while white or unpierced meant acquittal.

When the measure called ostracism was resorted to, the votes were given by means of shells, on which the voters wrote the name of the citizen whom they wished banished. The method known as petalism was employed at Syracuse, the voters using olive leaves as ballots. At Rome the ballot was introduced in the election of magistrates in 139 B. C., and subsequently in trials and legislation, the people voting at first viva voce, but later writing upon tablets the names of their candidates. In the republic of Venice a system of voting by ballot prevailed for many centuries.

In the United States it was in use in early colonial times; in France it has been in operation in elections since 1851; and in several of the Australian colonies since 1855.

Ballot Reform, is a term applied to such improvements in methods of voting as tend to eliminate unfairness at elections. Nearly every State in the Union has adopted some plan intended to make the ballot wholly secret. There is a single ballot, usually called a blanket ballot, because of its size, on which the voter indicates his choice — for a straight vote — by marking a cross in the circle at the head of the column containing the nominees of his party, and for a scattered or split vote, by making a cross in the space before the desired name. Two forms of the single ballot are in use: (a) One, following the Australian plan, in which the titles of the officers are arranged alphabetically, the names of the candidates and the party following; (b) one which groups all names and offices by parties.

In New York State the single ballot has one column for each organization that had made regular nominations, and another column containing only the titles of the offices to be filled, with a space on the left to indicate the choice by making a cross, and a space beneath the title of office, in which the voter could write the name

of any person for whom he desired to vote, whose name was not printed in any of the party columns of the ballot. Each of the columns is headed by a registered party emblem, the circle in which to indicate the choice for a straight vote, and the name of the party organization. Corruption is baffled, if not defeated by the practical inability of a voter to show how he is voting.

A new feature of ballot reform is the substitution for the ballot paper, which is folded and deposited by hand, of voting machines, which are contrivances that both record the votes and count them, enabling the inspectors to see at any moment how many votes have been cast, and for whom. No machine has as yet come into general use, but several States have authorized their employment, and others have referred the question of their adoption to local option.

Ballou, Hosea, an American Universalist clergyman, journalist, and historian, born at Halifax, Vt., Oct. 18, 1796; was the first President of Tufts College (1854–1861), and was very successful as editor of the "Universalist Magazine." He died at Somerville, Mass., May 27, 1861.

Ballou, Maturin Murray, an American journalist, son of Hosea Ballou, born in Boston, April 14, 1820; died in Cairo, Egypt, March 27, 1895.

Ball's Bluff, a spot on the right bank of the Potomac river in Loudon county, Va., about 33 miles N. W. of Washington; where the bank rises about 150 feet above the level of the river. It is noted as the scene of a battle between a Union force under Col. Edward D. Baker, and a Confederate force under the command of General Evans, Oct. 21, 1861. The battle resulted in the defeat of the Union force and the death of Colonel Baker.

Balm, a tree the specific name being given because it was once supposed to be the Scriptural "Balm of Gilead"—an opinion probably erroneous, for it does not at present grow in Gilead, either wild or in gardens, nor has it been satisfactorily proved that it ever did. It is a shrub or small spreading spineless tree, 10 to 12 feet high, with trifoliate leaves in fascicles of 2-6, and reddish flowers having four petals. It is found on both sides of the Red Sea, in Arabia, Abyssinia, and Nubia. It does not occur in Palestine.

Balm of Gilead Fir, a tree which furnishes a turpentine-like gum. It is a North American fir, having no geographical connection with Gilead.

Balmaceda, Jose Manuel, a Chilian statesman, born in 1840; early distinguished as a political orator; advocated in Congress separation of Church and State; as Premier, in 1884, introduced civil marriage; elected President in 1886. A conflict with the Congressional Party, provoked by his alleged cruelties and official dishonesty, and advocacy of the claim of Signor Vicuna as his legally elected successor, resulted in Balmaceda's overthrow and suicide in 1891.

Balmerino, Arthur Elphinstone, Lord, a Scottish Jacobite, born in 1688. He took part in the Jacobite rebellion of 1715, and fought at Sheriffmuir. Having joined the young Pretender in 1745, he was taken prisoner at Culloden, tried at Westminster, found guilty, and beheaded in 1746. His title was from Balmerino, in Fife.

Balmoral Castle, the Highland residence of King Edward, beautifully situated on the S. bank of the Dee, in the county of, and 45 miles W. of Aberdeen. It stands in the midst of fine and varied mountain scenery, is built of granite in the Scottish baronial style, was enlarged in 1888, and has a massive and imposing appearance. The estate, which is the King's private property, comprises 25,000 acres, mostly deer forest.

Balsa, a kind of raft or float used on the coasts and rivers of Peru and other parts of South America for fishing, for landing goods and passengers through a heavy surf, and for other purposes where buoyancy is chiefly wanted. It is formed generally of two inflated sealskins, connected by a sort of platform on which the fisherman, passengers or goods are placed.

Balsam, the common name of succulent plants of the genus impatiens, having beautiful irregular flowers, cultivated in gardens and greenhouses.

Balsam, an aromatic, resinous substance, flowing spontaneously or by incision from certain plants. A great variety of substances pass under this name. But in chemistry the term is confined to such vegetable juices as consist of resins mixed with volatile oils, and yield the volatile oil on distillation.

Balta, Jose, a Peruvian statesman, born in Lima, in 1816; retired from the army with the rank of Colonel in 1855; Minister of War in 1865; one of the leaders in the insurrection which overthrew the unconstitutional President, Prado, in 1868; and was President of Peru, in 1868–1872. He was murdered in a military mutiny in Lima, July 26, 1872.

Baltic and North Sea Canal, a German ship canal, starting at Holtenau, on the Bay of Kiel, and joining the river Elbe 15 miles from its mouth; called by the Germans the Kaiser Wilhelm Canal. The Emperor William I. commenced the works on June 6, 1887, so far as laying the foundation of the Holtenau locks was concerned, while William II. opened the canal gates in 1895. The work was thus actually completed in the estimated time, eight years, and the estimate of cost, $40,000,000, had not been exceeded.

Baltic Provinces (in Russia), a term which, in a wider sense, comprehends the five Russian governments bordering on the Baltic, viz., Courland, Livonia, Esthonia, Petersburg, and Finland; in a restricted sense it often designates the first three. The Baltic provinces once belonged to Sweden, except Courland, which was a dependency of Poland. The bulk of the population is composed of Esths and Letts; the Germans number above 200,000, the Russians only 65,000. The five provinces combined have an area of 191,526 square miles, and a population of 7,015,126.

Baltic Sea, the great gulf or inland sea bordered by Denmark, Germany, Russia, and Sweden, and communicating with the Kattegat and North Sea by the Sound and the Great and Little Belts. Its length is from 850 to 900 miles: breadth, from 100 to 200; and area, including the Gulfs of Bothnia and Finland, 184,496 square miles, of which 12,753 are occupied by islands. Its mean depth is 44 fathoms, and the greatest ascertained depth, between Gottland and Courland, 140.

Baltimore, a coextensive city and county of Maryland; sixth city in the United States in pop. in 1900; (1910) 558,485; on an expansion of the Patapsco river and seven railroads; 38 miles N. E. of Washington, D. C., and 14 miles from Chesapeake Bay. The city covers an area of 28 square miles, and the expansion of the river gives it a spacious and secure harbor (consisting of an outer bay accessible to the largest ships, and an interior basin for small vessels), which has become the seat of a very large foreign and coastwise trade. The entrance to the harbor is defended by Fort McHenry, an important military post, which successfully resisted an attack by the British fleet in the War of 1812. The city is laid out in general at right angles, with streets averaging 60 feet in width, and is built up with red brick, made from clay beds near the city, white marble and granite, both from quarries near by, and with iron.

The city is the largest oyster canning place in the world, the industry employing over 5,000 vessels and boats of all kinds and several thousand persons. It also ranks very high in the various manufactures of tobacco, and in the exportation of corn and grains in general.

On Sept. 11, 1814, the British forces under General Ross landed near Baltimore and attempted to carry the city by assault. The American forces were placed at a great disadvantage, and were unable to resist the invasion; but in the assault the British commander was killed, and his troops abandoned their purpose. On the following day, the British fleet bombarded Fort McHenry without practical success. During the Civil War the city was a scene of almost continual excitement. On April 19, 1861, a fatal assault was made on portions of the Sixth Massachusetts and the Seventh Pennsylvania Regiments as they were passing through the city on their way to Washington; in the following month General Butler occupied Federal Hill; in 1863–1864 the city was fortified to resist a threatened attack

by the Confederates; and in the latter year the National Republican Convention, which renominated President Lincoln, met in the city. On Sunday, Feb. 7, 1904, a fire broke out in the centre of the city, and raged for two days, destroying property of the value of $50,000,000. It necessitated the reconstruction of that portion of the city, and enabled other important improvements, wider streets, new buildings, electric lighting and transit, improved harbor accommodation, etc., to be effectively accomplished in the 'Monumental City.'

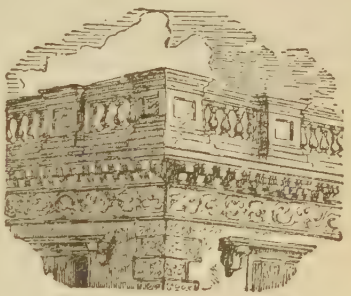
Baltimore Bird, Baltimore Oriole, Baltimore Hang-nest, or **Baltimore,** a bird of the family sturnidæ (starlings), and the subfamily oriolinæ (orioles). The name Baltimore was applied or attached to this bird not merely because it occurs at the place so called, but, according to Catesby, because its colors, which are black and orange, were the same as those on the coat of arms or livery of the Lord Baltimore who was formerly proprietor of Maryland. It extends from Canada to Mexico, or even to Brazil, migrating to the N. part of this area about May.

Baltimore, George Calvert, Lord, an English colonist, born in Yorkshire about 1580; was for some time Secretary of State to James I., but this post he resigned in 1624 in consequence of having become a Roman Catholic. Notwithstanding this he retained the confidence of the King, who, in 1625, raised him to the Irish peerage, his title being from Baltimore, a fishing village of Cork. He had previously obtained a grant of land in Newfoundland, but, as this colony was much exposed to the attacks of the French, he left it, and obtained another patent for Maryland. He died (1632) before the charter was completed, and it was granted to his son, Cecil, who deputed the governorship to his brother, Leonard.

Baluchistan, a country in Asia, the coast of which is continuous with the N. W. seaboard of India, bounded on the N. by Afghanistan, on the W. by Persia, on the S. by the Arabian Sea, and on the E. by Sind. It has an area of about 131,855 square miles, and a population (1901) of 915,000. In 1910 it was divided into (1) British and administered territory; (2) native States of Kalat and Las Bela; (3) and the Marri and Bugti tribal areas. Quetta is the seat of the British administration.

Balucki, Michael, a Polist dramatist and novelist, born in Cracow, Sept. 29, 1837.

Balustrade, a range of balusters, together with the cornice or coping which they support, used as a parapet for bridges or the roofs of buildings, or as a mere termination to a structure; also serving as a fence or inclosure for altars, balconies, terraces, staircases, etc.



BALUSTRADE.

Balzac, Honoré de, a French author, born at Tours, May 20, 1799; died in Paris, August, 1850. From 1819 to 1830 he led a life of frequent privation and incessant industry, producing stories which neither found nor deserved to find readers, and incurring — mainly through unlucky business speculations — a heavy burden of debt, which harassed him to the end of his career. He first tasted success in his 30th year on the publication of "The Last of the Chouans," which was soon afterward followed by "The Magic Skin," a marvellous interweaving of the supernatural into modern life, and the earliest of his great works. After writing several other novels, he formed the design of presenting in the "Human Comedy" a complete picture of modern civilization. All ranks, professions, arts, trades, all phases of manners in town and country, were to

be represented in his imaginary system of things. In attempting to carry out this impossible design, he produced what is almost in itself a literature. His work did not bring him wealth; his yearly income, even when he was at the height of his fame, is said to have rarely exceeded 12,000 francs. In 1849, when his health had broken down, he traveled to Poland to visit Madame Hanska, a rich Polish lady, with whom he had corresponded for more than 15 years. In 1850 she became his wife, and three months after the marriage, in August of the same year, Balzac died at Paris.

Bambarra, one of the Sudan States of Western Africa. The inhabitants, a branch of the Mandigoes, number about 2,000,000, and are superior to their neighbors in intelligence. The country is within the French sphere.

Bamberger, Heinrich von, an Austrian pathologist, born in Prague in 1822; was graduated in medicine in 1847; became Professor of Special Pathology and Therapeutics, first in the University of Würzburg, and, in 1872, in the University of Vienna. He died in 1888.

Bambino, the figure of our Saviour represented as an infant in swaddling clothes. The "Santissimo Bambino" in the Church of Ara Cœli at Rome, a richly decorated figure carved in wood, is believed to have a miraculous virtue in curing diseases.

Bamboo, a giant grass sometimes reaching the height of 40 or more feet, which is found everywhere in the tropics of the Eastern Hemisphere, and has been introduced into the West Indies, the Southern States of America, and various other regions of the Western world. Bamboo is put to all sorts of uses. Bows, arrows, quivers, the shafts of lances, and other warlike weapons can be made from the stems of bamboo, as can ladders, rustic bridges, the masts of vessels, walking sticks, water pipes, flutes, and many other objects. The leaves are everywhere used for weaving and for packing purposes. Finally, the seeds are eaten by the poorer classes in parts of India; and in the West Indies the tops of the tender shoots are pickled.

Ban, Bann, Banne, Bain, or **Bane,** a proclamation, public notice, or edict respecting a person or thing.

I. Military and feudal: A proclamation in time of war.

II. Historical. The ban of the empire: A penalty occasionally put in force under the old German Empire against a prince who had given some cause of offense to the supreme authority.

III. Law, etc. Banns (plural): The publication of intended marriages, proclamation that certain parties named intend to proceed to marriage, unless any impediment to their union be proved to exist.

Ban, in Austro-Hungary: (1) Formerly: A title belonging to the warden of the Eastern Marshes of Hungary. (2) Now: The Viceroy of Temesvar, generally called the Ban of Croatia. The territory he rules over is called a banat or banate.

Banana, a fruit originally East Indian, but much cultivated in warm countries over the whole globe.

Banana, an island in West Africa, N. of the mouth of the Kongo; also a seaport of the Kongo Free State on the island. It has lost commercial importance in recent years.

Banana-Bird, a bird belonging to the family sturnidæ (starlings), and the sub-family oriolinæ, or orioles. It is tawny and black, with white bars on the wings. It occurs in the West Indies and the warmer parts of Continental America.

Banat, a large and fertile region in Hungary, consisting of the counties of Temesvar, Torontal and Krisso; principal town, Temesvar. The region originally belonged to Hungary; was occupied by the Turks in 1652–1716; and was reunited to Hungary in 1779. The population exseeds 1,500,000.

Banca, an island belonging to the Dutch East Indies, between Sumatra and Borneo, 130 miles long, with a width varying from 10 to 30; pop. 80,921, a considerable proportion being Chinese. It is celebrated for its excellent tin, of which the annual yield is above 4,000 tons.

Bancroft, Aaron, a Unitarian clergyman, born in Reading, Mass., Nov. 10, 1755; graduated at Harvard,

in 1778; became pastor in Worcester in 1785, where he remained nearly 50 years. Besides a great number of sermons his works include a "Life of George Washington" (1807). He was the father of the historian, George Bancroft. He died at Worcester, Mass., Aug. 19, 1839.

Bancroft, George, an American historian, born near Worcester, Mass., Oct. 3, 1800. He was educated at Harvard and in Germany, where he made the acquaintance of many literary men of note. In 1824 he published a translation of Heeren's "Politics of Ancient Greece," and a small volume of poems, and was also employed in collecting materials for a history of the United States. Between 1834 and 1840 three volumes of his history were published. In 1845 he was appointed Secretary of the Navy, and effected many reforms and improvements in that department. He was American Minister to England from 1846 to 1849, when the University of Oxford conferred on him the honorary degree of D. C. L. He took the opportunity, while in Europe, to perfect his collections on American history. He returned to New York in 1849, and began to prepare for the press the fourth and fifth volumes of his history, which appeared in 1852. The sixth appeared in 1854, the seventh in 1858, the eighth soon after, but the ninth did not appear until 1866. From 1867 to 1874 he was Minister Plenipotentiary at the Court of Berlin. The 10th and last volume of his great work appeared in 1874. An additional section appeared, first as a separate work, in 1882: "History of the Formation of the Constitution of the United States," and the whole came out in six volumes in 1884–1885. He settled in Washington on returning from Germany, in 1875, and died there, Jan. 17, 1891.

Bancroft, Hubert Howe, an American historian, born in Granville, Ohio, May 5, 1832. In 1852 he went to California to establish a book business, and began to collect documents, maps, books and MSS. for a complete "History of the Pacific States" from Mexico to Alaska. In 1905 he gave his library of 60,000 volumes and 500 original MSS. to the University of California.

Bancroft, The, a steel gunboat of the United States navy; built expressly for a practice ship for the cadets of the United States Naval Academy; launched in 1892.

Bandai-San, a volcano in Japan; 140 miles N. of Tokio. Its summit consists of several peaks, the highest of which is 6,035 feet above the ocean and 4,000 feet above the surrounding plain. On July 15, 1888, there was a terrible explosion of steam which blew out a side of the mountain, making a crater more than a mile in width, and having precipitous walls on three sides. The debris of broken rock and dust poured down the slope and over an area of 27 square miles, killing 461 persons and covering many villages.

Banda Islands, a group belonging to Holland, Indian Archipelago, S. of Ceram, Great Banda, the largest, being 12 miles long by 2 broad. They are beautiful islands, of volcanic origin, yielding quantities of nutmeg. Goenong Api, or Fire Mountain, is a cone-shaped volcano which rises 2,320 feet above the sea. Pop. about 7,000.

Banda Oriental, a State of South America, now usually called URUGUAY.

Bandel, Ernst von, a Bavarian sculptor, born in 1800, at Ansbach; studied art at Munich, Nuremberg, and Rome; and from 1834 lived chiefly at Hanover, engaged off and on, for 40 years, on his great monument of Arminius, near Detmold, 90 feet high, which was unveiled by the Emperor Wilhelm on Aug. 16, 1875. He died near Donauworth, Sept. 25, 1876.

Bandelier, Adolph Francis Alphonse, a Swiss-American archæologist, born in Berne, Aug. 6, 1840; settled early in the United States, where he has done important work under the direction of the Archæological Institute of America. His studies have been chiefly among the Indians of New Mexico and Arizona, Central America and Mexico. He has published many papers on the subject.

Band Fish. The red band fish. It is about 15 inches long. Its brilliant appearance, when seen moving in the water, has suggested the names of fire-flame and red ribbon, by which it is also known. The home of the genus is in Japanese waters.

Bandicoot, the largest known species of rat, attaining the weight of two or three pounds, and the length, including the tail, of 24 to 30 inches. It is a native of India, and is very abundant in Ceylon. Its flesh is said to be delicate and to resemble young pork, and is a favorite article of diet with the coolies.

Bandiera, Attilio and **Emilio,** two brothers of a Venetian family, lieutenants in the Austrian navy, who attempted a rising in favor of Italian independence in 1843. The attempt was a failure, and they fled to Corfu; but, misled by false information they ventured to land in Calabria with 20 companions, believing that their appearance would be the signal for a general insurrection. One of their accomplices had betrayed them, and the party was captured at once by the Neapolitan police. Attilio and Emilio were shot along with seven of their comrades in the public square of Cosenza, on July 25, 1844.

Bandinelli, Baccio, son of a famous goldsmith of Florence, and one of the best sculptors of his time, was born at Florence in 1493. Among his best works are his colossal group of "Hercules," with Cacus at his feet, his "Adam and Eve," his copy of the "Laocoon," and the exquisite bassi-rilievi which adorn the choir of the Duomo in Florence, where he died in 1560.

Baner, Johan Gustafsson, a Swedish general in the Thirty Years' War, born in 1596; made his first campaigns in Poland and Russia, and accompanied Gustavus Adolphus, who held him in high esteem, to Germany. After the death of Gustavus, in 1632, he had the chief command of the Swedish army, and, in 1634, invaded Bohemia, defeated the Saxons at Wittstock, Sept. 24, 1636, and took Torgau. He ravaged Saxony again in 1639, gained another victory at Chemnitz, and, in 1640, defeated Piccolomini. In January, 1641, he very nearly took Ratisbon by surprise. He died in 1641.

Bang, Herman, a Danish novelist, born in 1857. He came into notice about 1879, since which time he has published a number of novels and some poems.

Bangalore, a town of Hindustan, capital of Mysore, and giving its name to a considerable district in the E. of Mysore State. Pop. 180,366.

Bangkok, the capital city of Siam, situated on both banks of the Menam, about 20 miles from its mouth. The population is about 600,000, nearly half of whom are Chinese, the others, including Burmese, Annamese, Cambodians, Malays, Eurasians, and Europeans. The foreign trade of Siam centers in Bangkok, and is mainly in the hands of the Europeans and Chinese. The approach to Bangkok by the Menam, which can be navigated by ships of 350 tons burden (large sea-going ships anchor at Paknam, below the bar at the mouth of the river), is exceedingly beautiful. The internal traffic of Bangkok is chiefly carried on by means of canals, there being only a few passable streets in the whole city. Horses and carriages are rarely seen, except in the neighborhood of the palaces. The native houses on land — of bamboo or other wood, like the floating houses — are raised upon piles, six or eight feet from the ground, and are reached by ladders. The circumference of the walls of Bangkok, which are 15 to 30 feet high, and 12 broad, is about 6 miles.

Bangkok is now the permanent residence of the King. The palace is surrounded by high walls, and is nearly a mile in circumference. It includes temples, public offices, accommodation for officials and for some thousands of soldiers, with their necessary equipments, a theater, apartments for a crowd of female attendants, and several Buddhist temples, or chapels. Several of the famous white elephants are kept in the courtyard of the palace. Throughout the interior are distributed the most costly articles in gold, silver, and precious stones. The chief exports are rice, sugar, pepper, cardamoms, sesame, hides, fine woods, ivory, feathers, and edible birds' nests. The imports are tea, manufactured silks and piece goods, opium, hardware, machinery, and glass wares. In 1893, a treaty was concluded at Bangkok, by which Siam made large cessions to France, two French gunboats having forced their way to the capital after an ineffective defense.

Bangor, city, port of entry, and capital of Penobscot county, Me.; at junction of the Penobscot and Kenduskeag rivers and on the Maine Central railroad; 140 miles N. E. of Portland; has exceptional power for manufacturing from the Penobscot river; is chiefly engaged in the lumber industry; and is the seat of a noted theological seminary. Pop. (1910) 24,803.

Bangs, John Kendrick, an American humorist and editor, born in Yonkers, N. Y., May 27, 1862. He was long famous for his light verse and humorous stories.

Bangs, Lemuel Bolton, an American physician; born in New York, Aug. 9, 1842. He was president of the American Association of Genito-Urinary Surgeons (1895) and the editor of the "American Text-Book of Genito-Urinary Diseases," etc.

Bangweolo (also called Bemba), a great Central African lake, discovered by Livingstone in 1868, which is 150 miles long by 75 in width, and 3,700 feet above the sea. On its S. shore Livingstone died.

Banian, or **Banyan,** an Indian trader, or merchant, one engaged in commerce generally, but more particularly one of the great traders of Western India, as in the seaports of Bombay, Kurrachee, etc., who carry on a large trade by means of caravans with the interior of Asia, and with Africa by vessels.

Banim, John, an Irish novelist, dramatist, and poet, born in Kilkenny, April 3, 1798; died in Kilkenny, Aug. 13, 1842.

Banishment (the act of putting under ban, proclamation, as an outlaw), a technical term for the punishment of sending out of the country under penalties against return.

Banister, John, an Anglo-American scientist, born in England; settled in the West Indies, and later in Virginia, in the vicinity of Jamestown, where he devoted himself to the study of botany. He died in 1692. His son, JOHN, born in Virginia, was educated in England, and studied law there; became Colonel in the Virginia militia; member of the Virginia Assembly; and prominent in the patriotic conventions of the Revolutionary period; was a Representative from Virginia in the Continental Congress in 1778–1779, and one of the signers of the Articles of Confederation. He died near Hatchers Run, Va., in 1787.

Banjermassin, a former Sultanate in the S. E. of Borneo, with an area of 5,928 square miles, and a population of about 300,000, chiefly Mohammedans. Tributary to Holland since 1787, it was annexed on the death of the last Sultan in 1857, and is now governed by the Dutch Resident for the S. and E. of Borneo, who has an assistant at Martapura, where the Sultans formerly lived.

Banjo, a musical instrument with five strings, having a head and neck like a guitar, with a body or sounding-board hollow at the back, and played with the hand and fingers. It is the favorite instrument of the plantation negroes of the Southern States and their imitators, and seems to have had its origin in the bandore, a musical instrument like a lute or guitar, invented by John Ross or Rose, a famous violin-maker, about 1562.

Bank, primarily an establishment for the deposit, custody and repayment on demand, of money; and obtaining the bulk of its profits from the investment of sums thus derived and not in immediate demand. The term is a derivative of the banco or bench of the early Italian money dealers.

Bankes, Henry, an English statesman and historian; born in London in 1757; died Dec. 17, 1834.

Bank Holidays, days during which banks are legally closed. The term is not used in the United States, it being customary for banks to close on all legal holidays. In Great Britain and Ireland the term is in general use as applied to what Americans would simply call holidays. In the United States, as in Great Britain, when a holiday falls on Sunday, it is observed on the following day.

Bankiva Fowl, a fowl living wild in Northern India, Java, Sumatra, etc., believed to be the original of our common domestic fowls.

Bank Note, an engraved certificate representing its face value in specie. In the production of bank notes, the principal purpose is to render their

forgery impossible, or at least easy of detection. This is sought to be effected by peculiarity of paper, design, and printing.

In the United States, the bank notes at present in circulation are manufactured by the Government Bureau of Engraving and Printing, the paper being made by a private concern, under a patented process, the chief ingredients being a mixture of linen and cotton fiber, into which are introduced threads of silk, so arranged as to be perceptible after the notes are printed. This style of paper is furnished only to the government. Superior skill is exercised in engraving the plates, nearly all parts of them being executed by the geometrical lathe and the ruling machine the work of which it is impossible to imitate successfully by hand. The printing of the notes is done in colored inks of the best quality, sometimes as many as four shades being used. The great expense of the machines used in the engraving, and the superior quality of the work generally, renders successful counterfeiting almost impossible. The notes, when badly worn, are returned to the United States Treasury, other notes being issued in their stead.

Bankruptcy Laws, regulations passed by a competent authority with a view to distributing the property of an insolvent equitably among his creditors and free the debtor from further obligation. In England, before 1841, only a tradesman could be a bankrupt. This distinction was then abolished. It was abolished in the United States in 1869. The act "to establish a uniform system of bankruptcy throughout the United States," was passed by both Houses of the 55th Congress, and by the approval of President McKinley, became a law on July 1, 1898.

The provisions under which a man can be thrown into bankruptcy against his will are as follows: (1) Where a man has disposed of his property with intent to defraud. (2) Where he has disposed of his property to one or more creditors to give a preference to them. (3) Where he has given a preference through legal proceedings. (4) Where a man has made a voluntary assignment for the benefit of his creditors generally. (5) Where a man admits in writing that he is bankrupt. The last two provisions are practically voluntary proceedings. Under the common law, a man is considered insolvent when he cannot pay his debts when they are due; under the new law, he is deemed insolvent only when his property, fairly valued, is insufficient to pay his debts. Only two offenses are cited under the new law: one when property is hidden away after proceedings in bankruptcy have been begun, and the other when perjury is discovered. Discharges are to be denied in only two cases; one, in which either of the offenses detailed has been committed, and the other, when it is shown that fraudulent books have been kept. The term of imprisonment for either of these offenses is not to exceed two years.

The law provides a complete system throughout the United States, and for its administration by the United States courts in place of the different systems formerly in existence in the various States administered by State courts. In bankruptcy proceedings, a bankrupt debtor may turn over all his property to the court, to be administered for the benefit of his creditors, and then get a complete discharge from his debts. A bankrupt may of his own motion offer to surrender his property to the administration of the United States court and ask for his discharge in voluntary bankruptcy, or creditors may apply to the court to compel a bankrupt to turn over his property to be administered under the act for the benefit of the creditors in voluntary bankruptcy. The bankrupt who has turned over all his property and conformed to the provisions of the act, is entitled to a judgment of court discharging him from any future liability to his creditors.

Banks, Sir Joseph, an English naturalist, born in London in 1743. He died in 1820, and bequeathed his collections to the British Museum.

Banks, Nathaniel Prentiss, an American legislator and soldier, born in Waltham, Mass., Jan. 30, 1816. At first a factory worker, he studied law, and became successively a member of the State and National Legislatures. He was Speaker of Congress in 1856, and in 1858, and in 1859 he was elected Governor of his native State. On

the outbreak of the Civil War, he took a command in the army, at first on the Potomac, then at New Orleans, and finally on the Red river. Relieved of his command in 1864, he re-entered Congress, voting mainly with the Republican party. He died in Waltham, Sept. 1, 1894.

Banks, Thomas, an English sculptor, born in 1735. He died in 1805.

Banks in the United States, financial institutions comprising (1) National banks; (2) State banks; and (3) savings banks, consisting of (a) mutual savings banks; and (b) stock savings banks. These are general throughout the entire country. In addition to these, are (1) co-operative banks, common to New England, especially Massachusetts; (2) loan and trust companies, established in nearly all the large cities; and (3) building and loan associations, now represented in most of the States and Territories. The last three classes partake of some of the features of regular banking, especially in the reception of money on deposit, subject to call, and the payment of interest thereon. The first three kinds of banks only are here considered.

The first bank in the United States was organized in Philadelphia in 1780, and a Bank of North America was planned in 1781 and opened in 1782. The Massachusetts Bank was incorporated in 1784; that of New York was chartered in 1791, although, since 1784, under Alexander Hamilton's "Articles of Association," it had been doing business. Alexander Hamilton also originated a plan for a United States bank, with a capital of $10,000,000, three-fourths to be paid in United States stock, at 6 per cent., which plan was adopted and approved by Washington in 1791. The bank was reorganized in 1816 with a capital of $35,000,000, the United States subscribing $7,000,000, with interest at 6 per cent., but in consequence of a general financial depression, was, the next year, in great danger of failure. Congress refusing to renew the charter, a State bank, called the United States bank, was chartered in Pennsylvania, and eventually failing, the whole account was settled in 1856. The $28,000,000 deposited by shareholders was totally lost, while the Government realized $6,093.167 upon its investments of stock. State banks were afterward chartered in the interests of individual and dominant political parties. The charters were sometimes fraudulently obtained and currency issued to three times the amount of their capital, and, in 1814, 1837, and 1857, many of them suspended payment. A reform movement in bank currency was inaugurated in Massachusetts in 1825, and a "safety-fund" system, recommended by Mr. Van Buren, adopted in 1829. In 1838 the Free Bank Act passed the New York Legislature, which authorized any number of persons to form a banking association, subject to certain specified conditions and liabilities.

On Feb. 25, 1863, the National banking system was organized. but the act establishing it was modified by that of June 3, 1864. This provided for a National Bank Bureau in the Treasury Department, whose chief officer is the Comptroller of the Currency. Under it National banks could be organized by any number of individuals, not less than five, the capital to be not less than $100,000 except in cities of a population not exceeding 6,000; in these banks could be established with a capital of not less than $50,000. In cities having a population of 50,000 the capital stock could not be less than $200,000. One third of the capital was required to be invested in United States bonds, which were deposited in the Treasury for security, upon which notes were issued equal in amount to 90 per cent. of the current market value, but not exceeding 90 per cent. of the par value; and these notes were receivable at par in the United States for all payments to and from the Government, except for duties on imports, interest on the public debt, and in redemption of the national currency. On March 3, 1865, an act was passed by which the circulation of the State banks was taxed 10 per cent., which drove their notes out of existence.

Various laws have since been passed in relation to National banks. On March 14, 1900, President McKinley approved a new currency act, which, among other things, established

the gold dollar as the standard unit of value, and placed at a parity with that standard all forms of money issued or coined by the United States. The bill also made a number of important changes in the regulations governing National banks. The new law permits National banks, with $25,000 capital, to be organized in places of 3,000 inhabitants or less, whereas the minimum capital previously was $50,000. It also permits banks to issue circulation on all classes of bonds deposited up to the par value of the bonds, instead of 90 per cent. of their face, as before.

More recent features of banking in the United States are the Oklahoma scheme for guaranteeing the deposits of banks, which Attorney-General Bonaparte nullified, as far as National banks are concerned, in 1908; the combined savings and insurance banks of Massachusetts, known as "Brandeis banks," established in 1908; the SCHOOL SAVINGS BANKS (*q. v.*) founded by J. H. Thiry, in New York, in 1885; and the POSTAL SAVINGS BANKS (*q. v.*), established by Congress in 1910. At the special session of Congress in 1913 an elaborate scheme was introduced for reforming the national banking laws, involving such radical changes that there arose a sharply divided sentiment in Congress, banking circles, and the business community generally. The committee having the bill in charge sought the judgment of leading banking experts and many compromising provisions were made in consequence.

Bannock, a tribe of North American Indians belonging to the Shoshoni stock. They are divided into two sections, one inhabiting part of Nevada, and the other part of Montana. Their language is entirely distinct from that of the other Shoshoni, and they are probably of a different race, affiliated by intermarriage. The survivors number less than a thousand.

Bannockburn, a village of Stirlingshire, Scotland, 3 miles S. S. E. of Stirling, on the Bannock Burn, a little affluent of the Forth. In the great battle of Bannockburn, fought on June 24, 1314, Robert Bruce, with 30,000 Scotch, gained a signal victory over Edward II., with 100,000 English, and secured his throne and the independence of Scotland. The English are said to have lost 30,000, and the Scotch 8,000 men. Not far off was fought the battle of Sauchieburn. In September, 1903, it was reported that Andrew Carnegie was negotiating to acquire ownership of the battlefield in order to preserve it as a national memorial.

Banquo, a famous Scottish thane of the 11th century. In conjunction with Macbeth, cousin of Duncan, the King, he obtained a victory over the Danes, who had landed on the Scottish coast. Macbeth, shortly afterward, violently dethroned Duncan, and caused him to be secretly assassinated. Banquo, though not an accomplice, was a witness of the crime; and being subsequently regarded by Macbeth with fear and suspicion, the latter invited him and his son to supper, and hired assassins to attack them on their return home during the darkness of night. Banquo was slain, but the youth made his escape. Shakespeare has interwoven this occurrence with the theme of his tragedy of "Macbeth."

Banshee, a fay, elf, or other supernatural being, supposed by some of the peasantry in Ireland and the Scottish Highlands to sing a mournful ditty under the windows of the house when one of the inmates is about to die.

Bantam, a variety of the common domestic fowl, originally brought from the East Indies, and supposed to derive its name from the above town. It is remarkable for its small size, being only about one pound in weight, and for a disposition more courageous and pugnacious than even that of a gamecock.

Banting, William, an Englishman of notable corpulence, born in 1797, who, by adopting a simple diet was able to relieve himself of his superfluous flesh. The dietary recommended was the use of butcher's meat principally, and abstinence from beer, farinaceous food, and vegetables. He died in 1878.

Bantry Bay, a deep inlet in the S. W. extremity of Ireland, in County Cork. Here a French force attempted to land in 1796. The coast around is rocky and high.

Bantu, the ethnological name of a group of African races dwelling below about 6° N. lat., and including the Kaffirs, Zulus, Bechuanas, the tribes of the Loango, Kongo, etc., but not the Hottentots.

Banvard, John, an American artist, poet, and dramatist, born in New York about 1820; died in 1891.

Banvard, Joseph, an American Baptist clergyman and historical writer, brother of the preceding, born in New York in 1810.

Banyan Tree, a species of the genus ficus. It is regarded as a sacred tree by the Hindus. Its branches

BANYAN TREE.

produce long shoots, or aerial roots, which descend to the ground and penetrate the soil; so that, in course of time, a single tree becomes a vast umbrageous tent, supported by numerous columns.

Baobab, a tree also styled the monkey-bread, African calabash, or Ethiopian sourgourd tree. The fruit is of slightly acid taste. The juice mixed with sugar is serviceable in putrid and pestilential fevers.

Baptism (from the Greek baptizo, from bapto, to immerse or dip), a rite which is generally thought to have been usual with the Jews even before Christ, being administered to proselytes. From this baptism, however, that of St. John the Baptist differed because he baptized Jews also as a symbol of the necessity of perfect purification from sin. Christ himself never baptized, but directed his disciples to administer this rite to converts (Matt. xxviii: 19); and baptism, therefore, became a religious ceremony among Christians, taking rank as a sacrament with all sects which acknowledge sacraments. Three modes of administering the rite have been adopted — immersion, pouring and sprinkling. The question, on which there have been innumerable disputes, turns upon the meaning of the Greek preposition following the verb. The advocates of baptism by immersion, as the only valid form, claim that the preposition is "in;" the advocates of sprinkling contend that the preposition is, "with." The Greek Church adopted the custom of immersion; but the Western Church adopted or allowed the mode of baptism by pouring or sprinkling, since continued by most Protestants.

Baptists, a Protestant denomination based on the belief that immersion is the only Scriptural mode of baptism, and that those only are proper subjects for this ceremony who are converted and profess personal faith in Christ. They thus reject both infant baptism and baptism by sprinkling or pouring of water as invalid. There are, however, other sects, including the Mennonites, the Christians, the Disciples of Christ, etc., who accept the prominent principles of the Baptists in whole or in part, and yet are not classified with them, owing to some minor differences. The Baptists reject the name of Anabaptists as a term of reproach, holding that it is incorrect, because their members generally receive the rite on their admission to the church, and because they were not identified with the Baptists of Munster. The Baptists first appeared in Switzerland, in 1523, and soon spread to Germany, Holland, and other continental countries, whence they were driven to England by persecution on account of their rejection of infant baptism. The history of the Baptists in England prior to the 16th century is still a matter of controversy. The first regularly organized church was Arminian, and was established in 1610 or 1611. A Calvinistic

Baptist Church was founded about 1633. Those holding Arminian views received the name of General Baptists, and those holding Calvinistic views the name of Particular Baptists. In 1640 there were seven Baptist congregations in London.

The Baptists in the United States spring historically from the English and Welsh Baptists; but the first Baptist church was organized by Roger Williams, who was a minister in the Massachusetts Colony previous to his immersion. He was persecuted for holding principles which inclined to Anabaptism, and for antagonizing the authorities of the colony in ecclesiastical matters. After being immersed, in 1639, by Ezekiel Holliman, whom he in turn immersed with 10 others, he organized a Baptist Church in Providence, R. I. In 1644 he obtained a charter which granted to the people of Rhode Island entire freedom of conscience. There were other Baptists, however, who emigrated from England in the 17th century, and, before the end of the 18th century, became numerous in New England, New York, Pennsylvania, Virginia, Georgia, and other States. In all the British colonies, excepting Rhode Island, the Baptists were persecuted for a long time. In Massachusetts laws were issued against them in 1644; several of them were imprisoned in 1651; others exiled in 1669; and a Baptist meeting-house was closed in 1680. New York issued laws against them in 1662, and Virginia in 1664. This persecution had greatly abated at the beginning of the 18th century. After the Revolutionary War the Baptists increased with great rapidity, especially in the South and Southwestern States, and have steadily increased ever since.

There are at present three bodies of Regular Baptists, the Northern, the Southern, and the Colored, all of whom agree in doctrinal and ecclesiastical principles, but each has its own associations, State Conventions, and general missionary and other associations. In 1845 a controversy concerning slavery, which had been going on for some time, caused a division between the Baptists in the Northern and those in the Southern States, after which the Northern Baptists continued to support the Home Mission Society and the American Baptist Missionary Union, on an anti-slavery basis. In 1879 the question of reuniting the divisions was agitated, but nothing was accomplished. The Southern Division is the largest branch of white Baptists. After the division of 1845 the Southern churches established the Southern Baptist Convention, which holds annual meetings, where the promotion and direction of the denominational interests are considered, such as Sunday-schools, and home and foreign missions. It is composed of representatives from associations, other organizations, and from the churches. The Colored Baptists compose the largest body of Regular Baptists, although many Colored Baptists are not members of this division; those only being included who have separate churches, State Conventions, and associations. The Colored Baptists of the North are generally members of churches belonging to white associations. In 1866 the first State Convention of Colored Baptists was organized in North Carolina, the second in Alabama, and the third in Virginia, both in 1867, and the fourth in Arkansas in 1868. There are (1900) Colored conventions in 15 States and the District of Columbia. Besides these associations there are the American National Convention, which deliberates upon questions of general concern; the Consolidated American Missionary Convention, the General Association of the Western States and Territories, the New England Missionary Convention, and the Foreign Missionary Convention of the United States.

Besides the three large divisions of Baptists, there are 10 smaller ones. (1) Six Principle Baptists date back to Roger Williams and the year 1639 for their origin. They differ from the Regular Baptists in holding the Arminian instead of the Calvinistic creed, and in the practice of the laying on of hands in the reception of members. (2) Seventh Day Baptists, in the United States, date their origin back to 1671, when Stephen Mumford, from England, organized the first church in Newport, R. I. Their only difference from other Baptists is found in their keeping the seventh day as

"the Sabbath of the Lord." (3) Freewill Baptists. The first church of this sect was founded by Benjamin Randall in New Durham, N. H., in 1780. At first their organizations were called simply Baptist churches, but later the word "Freewill" was applied to them, in allusion to their doctrine concerning the freedom of the will. (4) Original Freewill Baptists date back to 1729, when a number of General Baptist churches were founded in North Carolina. In 1759 many of these general churches became Calvinistic. Those which did not join the Calvinistic association were called "Freewillers," because they held the doctrine of the freedom of will. (5) General Baptists are thus named, because they originally differed from the Regular Baptists in holding that the atonement was for the whole race and not merely for those effectually called. They date back to the beginning of the 18th century. (6) Separate Baptists originated in the great Whitefield revival. In doctrine they generally agree with the Freewill Baptists. (7) United Baptists. A sect which sprang from the opposition to the great revival of George Whitefield. They hold moderate Calvinistic views. (8) Baptist Church of Christ. A sect organized in 1808 in Tennessee, where half their number is found. They have a mild form of Calvinism with a general atonement. (9) Primitive Baptists are variously known as Primitive, Old School, Regular, and Antimission Baptists. Their organization occurred about 1835. They do not believe in the establishment of Sunday-schools, mission, Bible, and other societies, which they hold are unscriptural because they are human institutions. (10) Old Two-Seed-in-the-Spirit-Predestinarian Baptists. A conservative body of Baptists who are strongly Calvinistic, believing firmly in predestination. The phrase "Two-Seed" is understood to mean their belief that there are two seeds, one of the good and one of the evil. The doctrine is supposed to have been originated by Elder Daniel Parker, who preached in Tennessee in 1806–1817, in Illinois till 1836, and later in Texas, where he died.

All Baptist denominations are congregational in polity, with the possible exception of the Original Freewill Baptists. Each church, under its officers of pastor and deacons, manages its own affairs. According to a special Census report on "Religious Bodies" (2 vols., 1910), there were in the United States in 1906, 14 distinct Baptist bodies, with a total of 54,880 organizations, 52,338 places of worship, 43,790 ministers, 5,662,234 communicants, property valued at $139,842,656 and 2,898,914 Sunday school scholars.

Baptist Young People's Union of America, an association representing numerous young people's societies connected with the Baptist Churches in all the States and in Canada. Organized in June, 1891, in Chicago, Ill., which place has since been its headquarters.

Bar, in hydrography, a bank of sand, silt, etc., opposite the mouth of a river, which obstructs or bars the entrance of vessels. The bar is formed where the rush of the stream is arrested by the water of the sea, as the mud and sand suspended in the river water are thus allowed to be deposited. It is in this way that deltas are formed at the mouths of rivers. The navigation of many streams is kept open only by constant dredging.

Barabbas, a noted robber in Christ's time, who was awaiting death for sedition and murder. It was a custom of the Roman government to conciliate the Jews, to release one Jewish prisoner, whom they might choose, at the yearly Passover. Pilate desired thus to release Jesus, but the Jews demanded Barabbas.

Baracoa, a seaport town in the province of Oriente, Cuba; on the N. E. coast; 90 miles E. N. E. of Santiago; is the oldest settlement in Cuba and one of the oldest in the New World (1514); has a small, shallow harbor. Pop. (1907) 27,852.

Baranoff Island, one of the Alexander Islands, Alaska. It is about 75 miles long. On its coast is the town of Sitka. The island derives its name from the Russian trader, Baranoff, who, in 1799, took possession of it.

Barataria Bay, in the S. E. part of Louisiana, extending N. from the

Gulf of Mexico, between the parishes of Jefferson and Plaquemine. This bay is about 15 miles long by 6 wide. It, and the lagoons branching out of it, were rendered notorious about the years 1810–1812 as being both the headquarters and rendezvous of the celebrated Lafitte and his buccaneers.

Baratier, Johann Philipp, a German litterateur, remarkable for the precocity of his intellect, was born in 1721. At the age of 7 he understood Greek and Hebrew, and two years later he compiled a Hebrew dictionary. He was 13 when he translated the "Itinerary of Benjamin of Tudela." Excess of work and, perhaps, a too rapid development of his intellectual faculties brought about a languid malady, and, at the age of 19 years he died.

Barbacan, a projecting watch tower, or other advanced work, before the gate of a castle or fortified town. The term barbacan was more especially applied to the outwork intended to defend the drawbridge, which in modern fortifications is called the tete du pont.

Barbadoes, or **Barbados,** the most eastern of the West India Islands, first mentioned in 1518, and occupied by the British in 1625; length 21 miles, breadth, 13; area, 106,470 acres, or 166 square miles; mostly under cultivation. Capital, Bridgetown. It is more densely peopled than almost any spot in the world, the population in 1901 being 195,000, or about 1,174 to the square mile. The climate is very hot, though moderated by the constant trade winds; and the island is subject to dreadful hurricanes.

Barbaro, Francesco, one of the most distinguished Italian authors of the 15th century, born at Venice, in 1398; died in 1454.

Barbaroux, Charles Jean Marie, one of the greatest of the Girondists, was born at Marseilles, March 6, 1767. He opposed the party of Marat and Robespierre, and even directly accused the latter of aiming at the dictatorship; consequently, he was, in May, 1793, proscribed as a royalist and an enemy of the Republic. He fled to Calvados, and thence with a few friends to the Gironde, where he wandered about the country, hiding himself as he best could for about 13 months. At last, on the point of being taken, he tried to shoot himself; but the shot miscarried, and he was guillotined at Bordeaux, June 25, 1794.

Barbary, a general name for the most northerly portion of Africa, extending about 2,600 miles from Egypt to the Atlantic, with a breadth varying from about 140 to 1,550 miles; comprising Morocco, Fez, Algeria, Tunis and Tripoli (including Barca and Fezzan). The principal races are the Berbers, the original inhabitants, from whom the country takes its name; the Arabs, who conquered an extensive portion of it during the times of the caliphs; the Bedouins, Jews, Turks, and the French colonists of Algeria, etc. The country, which was prosperous under the Carthaginians, was, next to Egypt, the richest of the Roman provinces, and the Italian States enriched themselves by their intercourse with it. In the 15th century, however, it became infested with adventurers who made the name of Barbary corsair a terror to commerce, a condition of things finally removed by the French occupation of Algeria.

Barbary Ape, or **Magot,** a monkey — the macacus inuus, found in the N. of Africa, and of which a colony exists on the Rock of Gibraltar. It is the only recent European quadrumanous animal. It is sometimes called the magot, and is the species occasionally exhibited, when young, by showmen in the streets.

Barbazan, Arnauld Guilhem, Sire de, a French captain, who was distinguished by Charles VI. with the title of "Chevalier Sans Reproche," and by Charles VIII. with that of "Restaurateur du Royaume et de la Couronne de France," born about the end of the 14th century. He was killed at Bullegneville, in 1432.

Barbecue. 1. A beef dressed whole, as is done in an election campaign. To do this, the carcass of the animal, split to the backbone, is laid upon a large gridiron, under and around which is placed a charcoal fire.

2. A large gathering of people, generally in the open air, for a social en-

tertainment or a political rally, one leading feature of which is the roasting of animals whole to furnish the numerous members of the party with needful food.

Barbel. 1. A small fleshy thread or cord, of which several hang from the mouth of certain fishes.

2. A knot of superfluous flesh growing in the channels of a horse's mouth.

Barber, one who shaves beards and dresses hair. In early times the operations of the barber were not confined, as now to shaving, hairdressing, and the making of wigs; but included the dressing of wounds, blood-letting, and other surgical operations. It seems that in all countries the art of surgery and the art of shaving went hand in hand. The title of barber-chirurgeon, or barber-surgeon, was generally applied to barbers. The State of New York in 1903 adopted a law regulating the business of barbers, enforcing stringent sanitary rules in their shops, and appointing a commission to enforce the law.

Barber, Edward Atlee, an American archæologist, born in Baltimore, Md., Aug. 13, 1851; was graduated at Williston Seminary in 1869, and was assistant naturalist in the United States Geological Survey in 1874-1875. Subsequently he was engaged in gold dredging. His writings include a history of the ancient Pueblos and a large number of magazine articles on ceramics.

Barber, Francis, an American general, born at Princeton, N. J., 1751; died 1783. He graduated at what is now Princeton University in 1767, entered the Revolutionary Army as a major in 1776, and rose steadily through meritorious service to the rank of Adjutant-General. He was accidently killed by a falling tree, after recovering from severe wounds received at the battles of Monmouth, Newton, and at Yorktown.

Barber, John Warner, an American author, born in Windsor, Conn., in 1798; died in 1885. His writings were mainly historical and include: State Annals; "Historical Scenes in the United States," "Religious Events," "Elements of General History," "Our Whole Country, Historical and Descriptive."

Barberini, a celebrated Florentine family, which since the pontificate of Maffeo Barberini (Urban VIII., 1623 to 1644), has occupied a distinguished place among the nobility of Rome.

Barberry, or Berberry, the English name of the berberis. The common barberry is planted in gardens or in hedges, being an ornamental shrub, especially when covered with a profusion of flowers or loaded with fruit. It has yellow flowers with an unpleasant smell, which, however, are much frequented by bees. Their juice is acid, hence they are used for preserves and confectionery.

Barber's Itch, a disease of the skin of the face caused by the entrance of a fungus into the hair follicles of the beard.

Barbet. Birds having short, conical bills, with stiff bristles at the base, short wings, and broad and rounded tails. It is from the bristles, which have an analogy to a beard, that the name is derived. These birds are found in the warmer parts of both hemispheres, the most typical coming from South America.

Barbette, a mound of earth on which guns are mounted to be fired over the parapet.

In fortification. En barbette: Placed so as to be fired over the top of a parapet, and not through embrasures.

Barbiano, Abrecht da, an Italian military officer; formed the first regular company of Italian troops organized to resist foreign mercenaries, about 1379. This organization, named the "Company of St. George," proved to be an admirable school, as from its ranks sprang many future officers of renown. He became Grand Constable of Naples in 1384, and died in 1409.

Barbier, Henri Auguste, a French poet, born in Paris, April 29, 1805; died in Nice, Feb. 13, 1882.

Barbier, Jules, a French dramatist, born in Paris, 1825; d. 1901.

Barbieri, Giovanni Francesco, otherwise known as GUERCINO (the squinter) DA CENTO, an eminent and prolific historical painter, born near Bologna in 1590. He died in 1666.

Paolo Antonio Barbieri, a celebrated still-life and animal painter, was a brother of Guercino; born 1596, died 1640.

Barbour, Erwin Hinckley, an American geologist, born near Oxford, O.; was graduated at Yale College in 1882; was assistant paleontologist in the United States Geological Survey in 1882–1888; Stone Professor of Natural History and Geology in Iowa College in 1889–1891; became Professor of Geology in the University of Nebraska, and acting State Geologist in 1891; and curator of the Nebraska State Museum in 1892. In 1893 he took charge of the annual Morrill geological expeditions, and since then he has also been engaged in the United States Geological and Hydrographic Surveys.

Barbour, John, a Scottish poet, born about 1316. His great epic, "The Bruce," tells the story of Robert Bruce and the battle of Bannockburn. It was written in 1375 and brought him favor from the King. He died in Aberdeen, March 13, 1395.

Barbour, John Humphrey, an American educator, born in Torrington, Conn., May 29, 1854. He was rector of Grace Church, Hartford, till 1889, and then became Professor of New Testament Literature and Interpretation at the Berkeley Divinity School. He died in Middletown, Conn., April 29, 1900.

Barbour, William McLeod, a Congregational clergyman, born in Fochabers, Scotland, May 29, 1827; professor in Bangor Theological Seminary in 1868–1877; Professor of Divinity and college pastor in Yale, 1877–1887; became principal and Professor of Theology in the Congregational College in Montreal, Canada, in 1887. He died in 1892.

Barca, a country extending along the N. coast of Africa, between the Great Syrtis (now called the Gulf of Sidra) and Egypt. Bounded on the W. by Tripoli, and on the S. by the Libyan Desert, it is separated from Egypt on the E. by no definite line. Barca is sometimes regarded as a department of Tripoli, sometimes as an independent province, governed directly from Constantinople. Its area is about 70,000 square miles; and the population is estimated at 500,000. The capital is Bengazi.

Barcelona, the most important manufacturing city in Spain, in the province of the same name; pop. 509,589. The province of Barcelona has an area of 2,985 square miles, and pop. 1,034,538. Barcelona manufactures silk, woolens, cottons, lace, hats, firearms, etc., which form its principal exports. It imports raw cotton, coffee, cocoa, sugar, and other colonial produce; also Baltic timber, salt fish, hides, iron, wax, etc. Next to Cadiz it is the most important port in Spain. The harbor was extended and its entrance improved in 1875. Barcelona is noted for labor disturbances.

Barclay, Robert, the apologist of the Quakers, born in 1648, at Gordonstown, Moray, and educated at Paris, where he became a Roman Catholic. Recalled home by his father, he followed the example of the latter and became a Quaker. His first treatise in support of his adopted principles, published at Aberdeen in the year 1670, under the title of "Truth Cleared of Calumnies," together with his subsequent writings, did much to rectify public sentiment in regard to the Quakers. He died in 1690. He was a friend of and had influence with James II.

Barclay de Tolly, Michael, Prince, a Russian military commander, of Scottish descent, born in Livonia in 1755. He began his military career in the campaigns against the Turks, the Swedes, and the Poles. He was wounded at Eylau, when he was made lieutenant-general. In March, 1808, he surprised the Swedes at Umea, by a march of two days over the ice which covered the Gulf of Bothnia. He was made governor-general of Finland, and, in 1809, appointed Minister of War. He was author of the plan of operations which was followed with signal advantage by the Russian army in the campaign of 1812. After the battle of Bautzen, May 26, 1813, he was appointed commander-in-chief of the Prusso-Russian army; and under him Wittgenstein commanded the Russians; Blücher the Prussians; and the Grand Duke Constantine the Imperial Guard. On the day the allies en-

tered Paris he was created General Field-Marshal. He died in 1818.

Barclay-Allardice, Robert, known as Captain Barclay, the pedestrian, was born in 1779, and succeeded to the estate of Urie, near Stonehaven, in 1797. He died May 8, 1854. His feat of walking 1,000 miles in 1,000 consecutive hours took place at Newmarket, in June to July, 1809.

Barcochba, or **Barcokecas** ("son of a star"), a famous Jewish impostor, whose real name was Simeon, and who lived in the 2d century A. D. After the destruction of Jerusalem by Titus, the Jews, at different periods, sought to regain their independence; and Barcochba, seeing his countrymen still impatient of the Roman yoke, resolved to attempt their emancipation. With this view he sought to sound the dispositions of his co-religionists of Egypt, Mesopotamia, Greece, Italy and Gaul, and sent forth emissaries, who traveled over all the provinces of the Roman Empire. When all was ready Barcochba, solemnly announced himself as King and Messiah, and seized by surprise on many fortified places. All who refused to submit to him, particularly the Christians, were put to death. The revolt was crushed by the Romans after a five years' conflict in which Barcochba perished miserably.

Bard, a poet by profession, especially one whose calling it was to celebrate in verse, song, and play the exploits of the chiefs or others who patronized him, or those of contemporary heroes in general. Bards of this character flourished from the earliest period among the Greeks, and to a lesser extent among the Romans. Tacitus seems to hint at their existence among the Germanic tribes. It was, however, above all, among the Gauls and other Celtic nations that they flourished most.

Bard, Samuel, an American physician, born in Philadelphia, April 1, 1742; practiced in Philadelphia and New York; was the principal mover in the establishment of the medical school of Kings (Columbia) College; president of the New York College of Physicians and Surgeons that succeeded the medical school. He died in Hyde Park, N. Y., May 24, 1821.

Barebone, or **Barbone, Praise-God,** a member of the legislative body assembled by Cromwell in 1653, after the dissolution of the Long Parliament. The royalists facetiously distinguished him by calling the convention "Barebone's Parliament."

Barefooted Friars, monks who use sandals, or go barefoot. They are not a distinct body, but may be found in several orders of mendicant friars —for example, among the Carmelites, Franciscans, Augustinians. There were also barefooted nuns.

Barentz, Willem, a Dutch navigator. He was one of the early Arctic explorers; his attempt being to find a northeast passage to China. In his first voyage he reached lat. 77°-78′, and in his last, 80° 11′. He commanded several exploring expeditions around Nova Zembla and Spitzbergen, on one of which he had seven vessels loaded with rich goods for Eastern trade. In the summer of 1596, he set out with two ships, which were frozen in at Ice Haven in September. The following June they attempted to reach the mainland in boats, but most of them were lost.

Barham, Rev. Richard Harris, a humorous writer, born in 1788 at Canterbury; educated at Paul's School, London, and at Brasenose, Oxford. He published an unsuccessful novel, Baldwin, wrote nearly a third of the articles in Gorton's Biographical Dictionary, and contributed to Blackwood's Magazine. In 1824 he was appointed priest in ordinary of the chapel-royal, and afterwards rector of St. Mary Magdalene and St. Greorgy-by-St.-Paul, London. In 1837, on the starting of Bentley's Miscellany, he laid the main foundation of his literary fame by the publication in that periodical of the Ingoldsby Legends. He died in 1845.

Bariatinski, Alexander Ivanovich, Prince, a Russian field-marshal, born in 1814, and educated with the future Czar, Alexander II. While a young officer in the hussars, some love passages with a Grand Duchess caused his transfer to the Caucasus, where his success against the famous Shamyl secured him, in 1852, the rank

of lieutenant-general. He died in Geneva, March 9, 1879.

Baring, family name of the founders of one of the greatest financial and commercial houses in the world; now known as Baring Brothers & Co. The father of the founders was JOHN BARING, a German cloth manufacturer, who started a small business at Larkbear, near Exeter, England, in the first half of the 18th century. Two of his sons, FRANCIS and JOHN (1730-1816), established in London in 1770 the now existing house.

In 1885, the then head of the firm, Edward Charles Baring, was raised to the peerage, as Baron Revelstoke.

Barite, or **Baryta,** a mineral called also baroselenite, sulphate of baryta and heavy spar. It is found in the United States and on the continent of Europe. It is sometimes transparent, sometimes opaque.

Baritone, or **Barytone,** a male voice, the compass of which partakes of those of the common bass and the tenor, but does not extend so far downward as the one, nor to an equal height with the other.

Barium, the metallic basis of baryta, which is an oxide of barium; specific gravity 4; symbol Ba. It is only found in compounds, such as the common sulphate and carbonate, and was isolated by Davy for the first time in 1808. It is a yellow, malleable metal, which readily oxidizes, decomposes water, and fuses at a low temperature.

Bark, the exterior covering of the stems of exogenous plants. It is composed of cellular and vascular tissue, is separable from the wood, and is often regarded as consisting of four layers. Bark contains many valuable products, as gum, tannin, etc.; cork is a highly useful substance obtained from the epiphlœum; and the strength and flexibility of bast make it of considerable value. Bark used for tanning is obtained from oak, hemlock-spruce, species of acacia, growing in Australia, etc. Angostura bark, Peruvian, or cinchona bark, cinnamon, cascarilla, etc., are useful barks.

Bark, or **Barque,** a three-masted vessel of which the foremast and mainmast are square-rigged, but the mizzenmast has fore-and-aft sails only.

Bark, Peruvian, is the bark of various species of trees of the genus cinchona, found in many parts of South America, but more particularly in Peru, and having medicinal properties. Its medicinal properties depend upon the presence of quinine, which is now extracted from the bark, imported, and prescribed in place of nauseous mouthfuls of bark.

Barker, Albert S., an American naval officer, born in Massachusetts, March 31, 1843; was graduated at the United States Naval Academy in 1859; served on the frigate "Mississippi" in the operations to open the Mississippi river in 1861–1863, taking part in the bombardment and passage of Forts Jackson and St. Philip and the Chalmette batteries, the capture of New Orleans, and the attempted passage of Port Hudson, where his vessel was destroyed. He became Captain May 5, 1892; commanded the cruiser "Newark" during the war with Spain; subsequently succeeded to the command of the battleship "Oregon," which he took to Manila; became a Rear-Admiral, and was placed in command of the Norfolk Navy Yard in 1899; and in July, 1900, succeeded the late Rear-Admiral Philip as commandant of the Brooklyn Navy Yard.

Barker, Fordyce, an American physician, born in Wilton, Franklin co., Me., May 2, 1819; died in New York city, May 30, 1891.

BARK.

Barker, Matthew Henry, an English novelist; born at Deptford in 1790. Died in London, June 29, 1846.

Bark Louse, or **Scale Insect.** The bark lice are very small insects, whose females are wingless, their bodies resembling scales. They sting the bark of trees with their long, slender beak, drawing in the sap, and, when very numerous, injure or kill the tree. On the other hand, the males have two wings, but no beak, and take no food.

Barksdale, William, an American statesman and military officer, born in Rutherford county, Tenn., Aug. 21, 1821. He entered Congress in 1853, but gave up his seat when his State seceded, and took command of a regiment of Mississippi volunteers. He was made a Brigadier-General after a campaign in Virginia, and was killed at Gettysburg, July 2, 1863.

Barley. Barley is the hardiest of all the cereals, and was originally a native of Asia, but it is now cultivated all over the world, even as far N. as Lapland. In former times, it was largely used as an article of food, but the greater proportion of the barley now grown is used in the preparation of malt and spirits.

Barleycorn, John, a personification of the spirit of barley, or malt liquor, often used jocularly, and in humorous verse.

Barlow, Francis Channing, an American military officer, born in Brooklyn, N. Y., Oct. 9, 1834; was graduated at Harvard College in 1855; studied law in New York, and practiced there. In 1861 he enlisted as a private in the 12th Regiment, New York State National Guard, which was among the first troops at the front. He was promoted Lieutenant after three months' of service; Colonel during the siege of Yorktown; distinguished himself in the battle of Fair Oaks, or Seven Pines, for which he was promoted Brigadier-General; fought in almost every subsequent battle of the Army of the Potomac. He was severely wounded at Chancellorsville, May 2, 1863, and at Gettysburg, July 1, 1863. He was mustered out of the service with the rank of Major-General of volunteers. In 1866–1868, he was Secretary of State of New York; in 1871 became Attorney-General; and in 1873 resumed law practice in New York. He died in New York city, Jan. 11, 1896.

Barlow, Joel, an American poet and diplomatist; born in Reading, Conn., March 24, 1754. In the course of his adventurous career he fell in with the French army and was a sharer in its memorable retreat from Russia. Being overcome by cold and privation, he died near Cracow, Dec. 22, 1812.

Barmecides, an illustrious family of Khorassan, the romance of whose history is equally familiar to Europeans and Americans in the "Thousand and One Nights" (Arabian Nights' Entertainments), and to Orientals in the pages of their historians and poets; and who flourished at the Court of the early Abbasside Caliphs. Barmec, or Barmek, the founder of the family, transmitted the honors conferred on him by the Caliph Abd-al-Malik to his son, Khalid, and from him they passed to his son, Yahia, who, becoming tutor to the famous Haroun-al-Raschid, acquired an influence over that Prince; which, with Haroun's personal affection for the family, carried his sons, Fadl, or Fazl, Giaffar, Mohammed, and Mousa, to the highest dignities of the Court. The virtues and munificence of the Barmecides were, for a long period, displayed under favor of Haroun, as well as to the admiration of his subjects; but one of the brothers, Giaffar, having at last become an object of suspicion to the cruel and treacherous caliph, Yahia and his sons were suddenly seized, Giaffar beheaded, and the others condemned to perpetual imprisonment. The year 802 is assigned as the date of this tragedy.

Barnabas, St., or **Joseph,** a disciple of Jesus, and a companion of the Apostle Paul. He was a Levite, and a native of the Isle of Cyprus, and is said to have sold all his property, and laid the price of it at the feet of the apostles (Acts iv: 36, 37). He was a beloved fellow laborer with Paul.

Barnacle, a common crustacean belonging to the group of stalked cirripedia. It fixes itself to the bottoms of vessels and other inanimate and also animate objects, and its head being thus attached kicks food into its mouth with its legs. The term is often applied to persons who are superfluous fixtures in some institution or organization.

Barnard, Edward Emerson, an American astronomer, born in Nashville, Tenn., Dec. 16, 1857; graduated at Vanderbilt University in 1887; was astronomer in Lick Observatory, California, in 1887–1895, and then became Professor of Astronomy in Chicago University and Director of the Yerkes Observatory. His principal discoveries are the fifth satellite of Jupiter in 1892, and 16 comets. He has made photographs of the Milky Way, the comets, nebulæ, etc. The French Academy of Sciences awarded him the Lelande gold medal in 1892, and the Arago gold medal in 1893, and the Royal Astronomical Society of Great Britain gave him a gold medal in 1897. He is a member of many American and foreign societies, and a contributor to astronomical journals.

Barnard, Frederick Augustus Porter, an American educator, born in Sheffield, Mass., May 5, 1809; was graduated at Yale College in 1828; instructor there in 1830; Professor of Mathematics and Natural Philosophy in the University of Alabama in 1837–1848, and afterward of Chemistry and Natural History till 1854; Professor of Mathematics and Astronomy in the University of Mississippi, 1854–1861; its president in 1856–1858; and its Chancellor in 1858–1861. He was president of Columbia College, New York city, in 1864-1888. He died 1889.

Barnard, Henry, an American educational reformer, born at Hartford, Conn., in 1811; died there in 1900. He was graduated at Yale in 1830; entered the legal profession, became interested in politics, and during service in the legislature distinguished himself by his interest in the public school system, and the vigor with which he urged reforms. He was in succession School Commissioner of R. I.; Superintendent of Schools in Connecticut; President of the University of Wisconsin; President of St. John's College, Annapolis, and was first United States Commissioner of Education. He organized the Bureau, and in his reports suggested or supported the reforms that have since been made.

Barnard College, an educational (non-sectarian) institution for women only, in New York city; organized in 1889, and named in honor of Frederick A. P. Barnard, through whose efforts its foundation was largely due. It was made essentially a part of Columbia University, certain courses of study in the University and the use of its library being open to the students of Barnard. In January, 1900, the college was formally incorporated with Columbia University.

Barnardo, Thomas J., an English philanthropist; founder of the Barnardo Homes for homeless children; had his attention first turned in this direction by the condition in which he found a boy in a ragged school in East London in 1866. Following up the subject, he began to rescue children who had found their only shelter at night under archways, or in courts and alleys. These were introduced to his homes, where they received an industrial training, were saved from a possible career of crime, and enabled to achieve an honorable position in life. He died in 1905.

Barnato, Barney, a South African speculator. His real name is believed to have been Bernard Isaac. He was born in London, England, about 1845, of Hebrew parents. He began business there as a dealer in diamonds, and in five years earned enough to buy shares in the Kimberley diamond mines. He established a partnership with Cecil Rhodes, and, when, in 1886, gold was discovered, secured possession of the greater part of the region. He committed suicide by jumping from the deck of the steamer "Scot," bound from Cape Town to Southampton, June 14, 1897.

Barnave, Antoine Pierre Joseph Marie, a French orator, was born at Grenoble in 1761. The Constituent Assembly appointed him their President in January, 1791. After the flight of the King, he defended Lafayette against the charge of being privy to this step, and, upon the arrest of the royal family, was sent, with Petion and Latour-Maubourg, to meet them, and to conduct them to Paris. When the correspondence of the court fell into the hands of the victorious party, Aug. 10, 1792, they pretended to have found documents which showed him to have been secretly connected with it, and he was guillotined Nov. 29, 1793.

Barn Burners, the nickname given to the radical element of the Demo-

cratic Party in New York State, which supported Van Buren in the campaign of 1848.

Barnegat Bay, a bay on the E. coast of New Jersey, about 25 miles in length. Barnegat Inlet connects the bay with the Atlantic.

Barnes, Albert, an American Presbyterian minister, born in Rome, N. Y., Dec. 1, 1798. For 37 years pastor of the First Presbyterian Church in Philadelphia; he was best known by his "Notes" on the New Testament (of which over 1,000,000 volumes are said to have circulated), Isaiah, Job, Psalms, etc. He died at Philadelphia, Dec. 24, 1870.

Barnes, Joseph K., an American medical officer, born in Philadelphia, July 21, 1817; was educated in the medical department of the University of Pennsylvania; became Assistant Surgeon in the army in 1840, and served at various posts through the Mexican War. At the beginning of the Civil War he was summoned from Oregon, and assigned to duty in the office of the Surgeon-General. In 1863, he was appointed a Medical Inspector, with the rank of Colonel, and in September of the same year was promoted to Brigadier-General. In 1865 he was brevetted Major-General, United States Army. He was Surgeon-General of the army from 1864 till 1882, when he was retired. He died in Washington, D. C., April 5, 1883.

Barnes, William, an English poet and philologist, born in Dorsetshire, Feb. 22, 1800; died in Winterbourne Came, in October, 1886.

Barneveldt, Jan Van Olden, Grand Pensionary of Holland, born in 1549. He had scarcely reached his 20th year when he was called to the office of Councilor and Pensionary of Rotterdam; and such was the opinion even then entertained of his eminent abilities and integrity that he was allowed an important share in the management of those transactions with France and England by which the United Provinces sought to maintain themselves against Spain, whose yoke they had just thrown off. His conduct in the high office of Grand Pensionary of Holland and West Friesland, which he afterward filled, not only secured the independence, but restored the trade and improved the finances of the United Provinces. After the election of Maurice of Nassau to the dignity of Stadtholder, Barneveldt became the champion of popular liberties, and opposed with determination the ambitious designs of the new prince. The latter finally carried the day and Barneveldt was adjudged to death as a traitor and heretic, by 26 deputies named by Maurice. The sentence was carried into effect in 1619.

Barney, Joshua, an American naval officer, born in Baltimore, Md., July 6, 1759. He was captured by the British in March, 1778, but was exchanged in August of the same year; was captured again and held a prisoner till he escaped in 1781. In April, 1782, he took the British ship "General Monk," off Cape May; in November, 1782, he carried dispatches to Dr. Franklin in France, and brought back a sum of money lent by the French government. 1794 he went with Monroe to France, and for six years served in the French navy. In 1814, he commanded the fleet stationed in Chesapeake Bay. He died in Pittsburg, Pa., Dec. 1, 1818.

Barn Owl, a bird of prey belonging to the family strigidæ. It is called also the white owl, the church owl, the screech owl, the hissing owl, the yellow owl, the howlet, and the hoolet. It is found in the United States and in Europe.

Barnum, Frances Courtenay (Baylor), an American novelist, born in Arkansas, 1848.

Barnum, Phineas Taylor, an American showman, born at Bethel, Conn., July 5, 1810; after various unsuccessful business ventures, finally established Barnum's Museum in New York (1841), which was twice burned. He introduced Tom Thumb, Jenny Lind, Commodore Nutt, Admiral Dot, the woolly horse, Jumbo, etc., to the American public. In 1871 he established his great circus. He was mayor of Bridgeport, and four times member of the Connecticut Legislature. His benefactions were large and frequent. He was a lecturer on temperance and other popular subjects. He died at Bridgeport, Conn., April 7, 1891.

Barnum, William H., an American statesman, born in Boston Cor-

ners, N. Y., Sept. 17, 1818. He died in Lime Rock, Conn., April 30, 1889.

Barnwell, Robert Woodward, an American statesman, born in Beaufort, S. C., Aug. 10, 1801; was graduated at Harvard University in 1821; became a lawyer; was a member of Congress from South Carolina in 1829–1833; a United States Senator from that State, 1850–1851; Commissioner from South Carolina to confer with the Federal Government regarding the proposed secession of the State, in 1860; member of the Provisional Confederate Congress, 1861–1862; a Confederate Senator in 1862–1866; and then president of the University of South Carolina (an office he had held in 1835–1841) till 1873. He died in Columbia, S. C., Nov. 25, 1882.

Baroda, the second city of Guzerat, and third in the Presidency of Bombay, India; capital of the territory of the Guicowar in the State of the same name. It is 248 miles N. of Bombay, with which it is connected by railway. Baroda occupies an important situation between the coast and the interior, and its trade is considerable. Pop. (1901) 103,782.

Barometer, an instrument for measuring the weight of the air and the variations of its pressure in order to determine changes in the weather, the height of mountains, and other phenomena. This most useful instrument had its origin in an experiment of Torricelli, an Italian, who flourished about the middle of the 17th century

Baron, in the feudal system of the Middle Ages, the title baron, derived from the Latin varo, which signifies a man, and, sometimes, a servant, was given, at first, to the immediate tenant of any superior. In England, baron is the lowest grade of rank in the House of Lords.

Baronet, originally a term apparently in use as early as the time of Edward III. for certain landed gentlemen not of the dignity of lords, summoned to the English Parliament to counterbalance the power of the clergy. Subsequently it became the name given to three titled orders.

Baronius, or **Baronio, Cæsar,** an Italian ecclesiastical historian, born in 1538. He owes his fame to his work, "Ecclesiastical Annals," comprising valuable documents from the papal archives, on which he labored from the year 1580 until his death, June 30, 1607.

Barony, the lordship or fee of a baron, either temporal or spiritual.

Barotse, or **Marotse,** an important Bantu tribe inhabiting the banks and the regions E. of the Upper Zambezi, from about 14° to 18° S. lat. In Livingstone's time the Makololo were the dominant tribe in these parts of South Africa, but since then they have been almost entirely annihilated by the Bantus, who now occupy the vast territory from the Kabompo river to the Victoria Falls.

Barouche, a four-wheeled carriage with a falling top and two inside seats in which four persons can sit, two fronting two.

Barr, Amelia Edith, an Anglo-American novelist, born in Ulverton, Lancashire, England, March 29, 1831. She was the daughter of the Rev. William Huddleston, and in 1850 married Robert Barr. She came to the United States in 1854, and lived for some years in Texas; but after her husband's death (1867) removed to New York, where her first book, "Romance and Reality," was published in 1872. She is a prolific writer, and her novels are very popular.

Barr, Robert, a Scottish author, born in Glasgow, Sept. 16, 1850; he spent his childhood in Canada, drifted into journalism, joined the staff of Detroit "Free Press," and wrote under the name of "Luke Sharp." He went to London in 1881 and founded "The Idler" with Jerome K. Jerome, but retired to devote himself to fiction.

Barracan, strictly, a thick, strong stuff made in Persia and Armenia of camel's hair, but the name has been applied to various wool, flax, and cotton fabrics.

Barracand, Leon Henri, a French poet and novelist, born at Romans, Drome, May 2, 1844.

Barrack, a hut or small lodge. The plural, barracks, is now generally applied to a large structure, either erected expressly for the housing of troops or one which has been improvised for that purpose.

Barracuda, a pike-like seafish allied to the mullets, common on both coasts of America. The great barracuda reaches a length of 8 feet and a weight of 40 pounds. It is as savage as a shark. Its flesh is pleasant flavored, but is not always eaten, as there are times when it it not wholesome.

Barranquilla, the principal port of the Republic of Colombia, in the Department of Bolivar, near the left bank of the Main channel of the Magdalena, 15 miles distant from the sea. A railway connects it with the seaport of Sabanilla, 20 miles to the northwest. Trade is largely in the hands of the Germans. A United States consul is resident at Barranquilla. Pop. 40,000.

Barras, Paul Francois Jean Nicolas, Comte de, a French Jacobin, born in Provence, in 1755, of an ancient family; served as second lieutenant in the regiment of Languedoc until 1775. July 14, 1789, he took part in the attack upon the Bastille, and Aug. 20, 1792, upon the Tuileries. In 1792 he was elected a member of the National Convention, and voted for the unconditional death of Louis XVI. In February, 1795, he was elected President of the Convention, and, in that capacity, declared Paris in a state of siege, when the Assembly was attacked by the populace. Afterward, when the Convention was assailed, Bonaparte, by Barras's advice, was appointed to command the artillery; and that general on the 13th Vendemaire (Oct. 5, 1795), decisively repressed the royalist movement. Napoleon's coup d'état (Nov. 9, 1799), effectually overthrow his power. He died in Paris, Jan. 29, 1829.

Barre, a city in Washington county, Vt.; on the Winooski river and the Central Vermont and other railroads; 6 miles S. E. of Montpelier; is widely noted for its granite quarries and interests connected therewith. Pop. (1910) 10,734.

Barre, Isaac, a British soldier, born at Dublin in 1726. Gazetted as an ensign in 1746, he became friendly with General Wolfe, under whom he rose to the rank of Lieutenant-Colonel. He was wounded in the cheek at Quebec, was beside Wolfe when he fell, and figures in West's picture of "The Death of Wolfe." He entered Parliament in 1761, and held office successively under Lord Bute, Pitt, Rockingham, and Lord Shelburne. In Pitt's second administration he exposed the corruptions of the ministry, was a strong opponent of Lord North's ministry, and opposed the taxation of America. He died in London, July 20, 1802.

Barren Grounds, a large tract in the Northwest Territories of Canada, extending N. from Churchill river to the Arctic Ocean, between Great Bear and Great Slave Lakes and Hudson Bay. It largely consists of swamps, lakes, and bare rock.

Barrett, John, an American diplomatist, born in Grafton, Vt., Nov. 28, 1866; was graduated at Dartmouth College in 1889, and the same year went to the Pacific coast and was engaged in journalism till 1894. During 1894–1898 he was United States Minister Resident and Consul-General at Bangkok, Siam, and, after the expiration of his term of office, represented several American newspapers in Manila, Philippine Islands. After the American victory in Manila Bay he made a special study of conditions in the Philippine Islands, and, returning by way of London, addressed a joint assembly of members of the House of Commons and the London Chamber of Commerce, on the condition of trade in the Far East. He returned to the United States in the summer of 1899, and afterward did much to support the Federal Government against the attacks of the anti-expansionists.

Barrett, Lawrence, an American actor, born in Paterson, N. J., April 4, 1838. His first appearance on the stage was in 1853. In 1856 he appeared as Sir Thomas Clifford in "The Hunchback" at Chambers Street Theater, New York city, and in 1857 he supported Mr. Burton, Charlotte Cushman, Edwin Booth, and other eminent actors. He served as a captain in the 28th Massachusetts Infantry in the early part of the Civil War. Later he acted at Philadelphia, Washington, and at Winter Garden, in New York, where he was engaged by Mr. Booth to play Othello to his Iago. After this he became an associate manager of the Varieties Theater, in

New Orleans, where for the first time he played the parts of Richelieu, Hamlet, and Shylock. He gained steadily in distinction both as manager and actor. His last appearance was on March 18, 1891, in the character of Adrian du Mauprat to the Richelieu of Mr. Booth. He died in New York city, March 21, 1891.

Barrett, Wilson, an English dramatist, born in Essex, Feb. 18, 1846; died July 22, 1904.

Barrie, town and capital of Simcoe county, Ontario, Canada; on an arm of Lake Simcoe and the Grand Trunk railroad; 64 miles N. W. of Toronto; founded in 1832; incorporated in 1871; has steamers to all lake ports. Pop. (1901) 5,949.

Barrie, James Matthew, a Scottish author; born in Kurriemuir, Forfarshire, May 9, 1860. He went to London in 1885, to engage in journalism. His peculiar talent for depicting Scottish village life and rustic characters with fidelity, pathos, humor, and poetic charm, has brought him fame.

Barrier Reef, a coral reef which extends for 1,260 miles off the N. E. coast of Australia, at a distance from land ranging from 10 to 100 miles.

Barrili, Antonio Giulio, an Italian novelist, born in Savona, in 1836. Engaging in journalism when only 18, he assumed the management of "Il Movimento" in 1860, and became proprietor and editor of "Il Caffaro" in Genoa in 1872. He took part in the campaigns of 1859 and 1866 (with Garibaldi in Tyrol) and in the Roman expedition of 1867, and sat in the Chamber of Deputies in 1876–1879. He is one of the most prolific writers of modern Italy.

Barrios, Gerardo, a Central American statesman, born about 1810; became President of Salvador in 1860. He was deposed by Duenas as the outcome of the war with Guatemala, and, while endeavoring to bring about a revolution in order to become president again, he was captured and executed, in 1865.

Barrios, Justo Rufino, a Guatemalan statesman, born in San Marcos, about 1834; opposed President Cerna in the revolutionary movements of 1867, and was active in overthrowing the regime established by that president (1871). Two years later, when Granados took command of the army, Barrios became President and, by successive elections, he held the office till his death. His administration was marked by prosperity and freedom. A war with Salvador resulted from a proclamation intended to bring about the union of all the Central American nations in one republic. In an assault upon Chalchuapa, Barrios, putting himself at the head of a deserted regiment, was killed April 2, 1885. His widow lives in New York.

Barrister, Barraster, or **Barreter,** in England, a member of the legal profession who has been admitted to practice at the bar; a counselor at law. The term corresponding to barrister is in the United States counselor at law; but the position of the latter is not quite the same.

Barron, James, an American naval officer, born in Virginia in 1769; became Lieutenant in the navy in 1798, and was soon promoted to Captain. He commanded the "Chesapeake" in 1807, and was attacked by the British ship "Leopard" as a result of his refusal to allow the "Chesapeake" to be searched for deserters. The "Chesapeake," which was quite unprepared, discharged one gun previous to striking her colors. She was captured and three alleged deserters were found. Barron was court-martialed and suspended for five years. Upon his restoration, as the outcome of a long correspondence with his personal enemy, Commodore Decatur, a duel was fought and Decatur was killed. Barron became senior officer in the navy in 1839, and died in Norfolk, Va., April 21, 1851.

Barron, Samuel, an American naval officer, born in Hampton, Va., about 1763; in 1805 commanded a squadron of 10 vessels in the expedition against Tripoli. On his return to the United States was appointed Commandant of the Gosport Navy Yard, but died immediately afterward, Oct. 29, 1810.

Barrow, an artificial mound or tumulus, of stones or earth, piled up over the remains of the dead. Such erections were frequently made in an-

cient times in the New and Old Worlds. When opened they are often found to contain stone cysts, calcined bones, etc.

Barrow, Frances Elizabeth, an American author, born in Charleston, S. C., Feb. 22, 1822, was educated in New York, where she was married to James Barrow. She wrote, under the name of AUNT FANNY, numerous books for children. She died in New York city, May 7, 1894.

Barrow, Sir John, a notable English writer on travels, born at Dragleybeck, Lancashire, June 19, 1764; died in London, Nov. 23, 1848.

Barrows, John Henry, an American educator, born in Medina, Mich., July 11, 1847; was graduated at Olivet College in 1867; subsequently studied in Yale College, Union and Andover Theological Seminaries, and at Gottingen; was pastor of the First Presbyterian Church, in Chicago, for 14 years; organized and was president of the World's Parliament of Religions, at the World's Columbian Exposition in Chicago, in 1893. He delivered a course of lectures on Christianity in the principal universities in India, under the patronage of the University of Chicago, in 1896–1897, and became President of Oberlin College in 1898. He died in Oberlin, O., June 3, 1902.

Barrundia, Jose Francisco, a Central American statesman, born in Guatemala, in 1779. He became President of the Central American Republic in 1829; retaining office for something over a year. In 1852 he was again elected President. He came to the United States in 1854, as Minister from Honduras, to propose the annexation of that territory to the United States, but died suddenly before anything was accomplished, in New York city, Aug. 4.

Barry, Ann Spranger, an English actress, born in Bath, 1734. As Desdemona she had, during her whole career, no competitor. She died in London, in 1801, and is buried in Westminster Abbey.

Barry, Sir Charles, an English architect, born in London, in 1795. He was knighted in 1852, and died suddenly in 1860.

Barry, Elizabeth, an English actress, born in 1658; was said to be the daughter of Colonel Barry, a prominent royalist in the Civil War. She was known as "the great Mrs. Barry;" and is said to have created over 100 rôles. She died in London, Nov. 7, 1713.

Barry, James, an Irish painter and writer on art, born in Cork, in 1741; died in 1806.

Barry, John, an American naval officer, born in Tacumshane, Ireland, in 1745. He settled in Philadelphia, in 1760. When the Revolutionary War broke out he was appointed commander of the "Lexington," with which he captured the British tender "Edward," in 1776. He afterward took command of the "Raleigh," which was captured by the British "Experiment;" but in his next command, the "Alliance," he captured the British ships "Atlanta" and "Trepassy." He was chosen to convey Lafayette and Noailles back to France; and, in 1794 was appointed commodore. He died in Philadelphia, Sept. 13, 1803.

Barry, John Daniel, an American novelist, born in Boston, Mass., Dec. 31, 1866. He has written a number of popular books.

Barry, Spranger, an Irish actor, the great rival of Garrick, born in Dublin, in 1719. He was brought up as a silversmith; but his matchless form and voice led him to try the stage. He died in London, in 1777, and is buried in Westminster Abbey.

Barry, William Farquhar, an American military officer, born in New York city, Aug. 18, 1818; graduated at the United States Military Academy in 1838; and first saw active service in the Florida war (1852–1853). In the Mexican War he acted as aide-de-camp to General Worth. At the outbreak of the Civil War he was made chief of artillery, and organized the artillery of the Army of the Potomac. He subsequently became chief of artillery to Sherman, and took part in the march to the sea. In 1865 he was brevetted Major-General. In 1867 he had charge of the Artillery School at Fort Monroe. He died near Baltimore, Md., July 18 1879.

Barry, William Taylor, an American statesman, born in Lunenburg, Va., Feb. 5, 1784. He served in the War of 1812; and from 1814–1816 was United States Senator from Kentucky. In 1828 he was appointed Postmaster-General under Jackson; and was on his way as Minister to Spain when he died in Liverpool, Aug. 30, 1835. He was the first Postmaster-General who had a seat in the Cabinet.

Barsabas, Joseph, surnamed "the Just," one of Christ's early disciples, and probably one of the 70. He was one of the two candidates nominated to fill the vacancy left by Judas Iscariot in the apostleship (Acts i).

Bart, Barth, or **Baert, Jean,** a French sailor, born at Dunkirk, 1650, the son of a poor fisherman. He became captain of a privateer, and, after some brilliant exploits, was appointed captain in the Royal Navy. In recognition of his further services, he was made commodore, subsequently receiving letters of nobility. He died in 1702, and is regarded to this day as the typical naval hero of France.

Barter, in commerce and political economy, a term used to express the exchange of one commodity for another, as contrasted with the sale of commodities for money.

Barth, Heinrich, a German traveler, born in Hamburg in 1821. His explorations, which extended over an area of about 2,000,000 square miles, determined the course of the Niger and the true nature of the Sahara. He died in 1865.

Barthélemy - Saint - Hilaire, Jules, a French statesman; born in Paris, Aug. 19, 1805. He was on the side of the Moderate party in the revolution of 1848, and during the troublous times of 1870–1871 he was closely associated with M. Thiers. In 1875 he became a life senator, and in the cabinet of M. Jules Ferry, constituted 1880, he was appointed minister of foreign affairs. The chief event of his tenure of this office was the occupation of Tunis. He died in Paris, Nov. 23, 1895.

Bartholdi, Frederic Auguste, a French sculptor, born in Colmar, Alsace, April 2, 1834; received the cross of the Legion of Honor in 1865; principal works: the "Lion of Belfort;" statue of Lafayette, in Union Square, New York; bronze group of Lafayette and Washington, in Paris (1895); and the colossal figure in New York harbor, "Liberty Enlightening the World." He died in Paris, Oct., 1904.

Bartholomew, Edward Sheffield, an American sculptor, born at Colchester, Conn., in 1822; studied in New York and in Rome, where he lived during the latter part of his life. Among his works are "Blind Homer, Led by His Daughter," "Eve," "Youth and Old Age," etc. He died in Naples, May 2, 1858.

Bartholomew Fair, or **Bartlemy Fair,** a celebrated fair, which was long held in Smithfield, England, at Bartholomew-tide.

Bartholomew, Massacre of St., the slaughter of French Protestants in Paris, beginning Aug. 24, 1572. After the death of Francis II., Catherine de' Medici had assumed the regency for her son, Charles IX., then only 10 years old, and was compelled, in spite of the opposition of the Guises, to issue an edict of toleration in favor of the Protestants. The party of the Guises now persuaded the nation that the Catholic religion was in the greatest danger. The Huguenots were treated in the most cruel manner; Prince Conde took up arms; the Guises had recourse to the Spaniards, Conde to the English, for assistance. Both parties were guilty of the most atrocious cruelties, but finally concluded peace. The queen-mother caused the king, who had entered his 14th year, to be declared of age, that she might govern more absolutely under his name. Duke Francis de Guise had been assassinated by a Huguenot, at the siege of Orleans; but his spirit continued in his family, which considered the Admiral Coligny as the author of his murder. The king had been persuaded that the Huguenots had designs on his life, and had conceived an implacable hatred against them. Meanwhile, the court endeavored to gain time, in order to seize the persons of the prince and the admiral by stratagem, but was disappointed, and hostilities were renewed with more violence than ever. In the battle of Jarnac, 1569, Conde was made pris-

oner and shot by Captain de Montesquieu. Coligny collected the remains of the routed army; the young Prince Henry de Bearn (afterward Henry IV., King of Navarre and France), the head of the Protestant party after the death of Conde, was appointed commander-in-chief, and Coligny commanded in the name of the Prince Henry de Conde, who swore to revenge the murder of his father. The advantageous offers of peace at St. Germain-en-Laye (Aug. 8, 1570) blinded the chiefs of the Huguenots, particularly Admiral Coligny, who was wearied with civil war. The king appeared to have entirely disengaged himself from the influence of the Guises and his mother; he invited the old Coligny, the support of the Huguenots, to his court, and honored him as a father. The most artful means were employed to increase this delusion. The sister of the king was married to the Prince de Bearn (Aug. 18, 1572), in order to allure the most distinguished Huguenots to Paris. Some of his friends endeavored to dissuade the admiral from this visit; but he could not be convinced that the king would command an assassination of the Protestants throughout his kingdom. On Aug. 22, a shot from a window wounded the admiral. The king hastened to visit him, and swore to punish the author of the villainy; but, on the same day, he was induced by his mother to believe that the admiral had designs on his life. "God's death!" he exclaimed: "kill the admiral; and not only him, but all the Huguenots; let none remain to disturb us!" The following night Catherine held the bloody council which fixed the execution for the night of St. Bartholomew, Aug. 24, 1572. After the assassination of Coligny, a bell from the tower of the royal palace, at midnight, gave to the assembled companies of burghers the signal for the general massacre of the Huguenots. The Prince of Conde and the King of Navarre saved their lives by going to mass, and pretending to embrace the Catholic religion. By the king's orders, the massacre was extended through the whole kingdom; and if, in some provinces, the officers had honor and humanity enough to disobey the orders to butcher their innocent fellow citizens, yet instruments were always found to continue the massacre. This horrible slaughter continued for 30 days, in almost all the provinces; the victims are calculated at 30,000. At Rome, the cannons were discharged, the Pope ordered a jubilee and a procession to the Church of St. Louis, and caused the Te Deum to be chanted. Those of the Huguenots who escaped fled into the mountains and to Rochelle. The duke of Anjou laid siege to that city, but, during the siege, received the news that the Poles had elected him their king. He concluded a treaty, July 6, 1573, and the king granted to the Huguenots the exercise of their religion in certain towns. The court gained nothing by the massacre of St. Bartholomew.

Bartholomew, St., the apostle, probably the same person as Nathanael, mentioned, in the Gospel of St. John, as an upright Israelite, and one of the first disciples of Jesus.

Bartholomew, St., an island, one of the West Indies, in the Leeward group, belonging to France, being transferred by Sweden in 1878. It is a dependency of Guadeloupe. The island has a mountainous surface and is about 24 miles in circumference.

Bartlett, Edwin Julius, an American chemist, born in Hudson, O., Feb. 16, 1851; the author of many papers on chemical subjects.

Bartlett, Sir Ellis Ashmead, an English politician, born in Brooklyn, N. Y., of American parents, in 1849; educated in England; was Civil Lord of the Admiralty in 1885–1886, and 1886–1892, and brother of William Ashmead Bartlett, who married the Baroness Burdett-Coutts. He died in London, Jan. 18, 1902.

Bartlett, Homer Newton, an American composer, born in Olive, N. Y., Dec. 28, 1846. He has written a large number of anthems, quartets, and glees, etc.

Bartlett, John, an American author and publisher, born in Plymouth, Mass., June 14, 1820; became a publisher in Cambridge, 1836, and head of the firm of Little, Brown & Co., 1878. He died Dec. 3, 1905.

Bartlett, John Russell, an American author; born in Providence, R. I., Oct. 23, 1805; was educated for

a mercantile career. After 1837, he entered the book-importing trade in New York. In 1850, he was appointed one of the commissioners to fix the Mexican boundary. In 1855, he was made Secretary of State of Rhode Island. He wrote various valuable records, genealogies, local histories, etc. His best known work is his "Dictionary of Americanisms" (1850). He died in Providence, May 28, 1886.

Bartlett, John R., an American naval officer, born in New York in 1843; was appointed an acting midshipman in the navy from Rhode Isl. in 1859. During the Civil War, he took part in many important naval conflicts, from New Orleans to the capture of Fort Fisher. Subsequently he was on surveying duty in Nicaragua and on the United States Coast Survey; was promoted to Captain, July 1, 1892; and was retired July 12, 1897. After the declaration of war against Spain, in 1898, he was recalled to active service, and on July 9, succeeded Rear-Admiral Erben as commander of the Auxiliary Naval Squadron for the protection of the Atlantic coast cities. He died at St. Louis, Nov. 22, 1904.

Bartlett, Josiah, an American physician and statesman, born in Amesbury, Mass., in 1729; was one of the signers of the Declaration of Independence, and a member of the Continental Congress (1775-1776); became Chief Justice of New Hampshire (1788); and first Governor of New Hampshire under the new State Constitution. He died in 1795.

Bartlett, Paul Wayland, American sculptor; born at New Haven, 1865. His chief works are the equestrian statue of General McClellan in Philadelphia, and the statue of Lafayette, presented to France by the children of America, and now in Paris.

Bartlett, Samuel Colcord, an American educator, born in Salisbury, N. H., Nov. 25, 1817. In 1877 he accepted the presidency of Dartmouth College, which he held until 1892, when he resigned. He died in Hanover, N. H., Nov. 16, 1898.

Bartlett, William Francis, an American military officer, born in Haverhill, Mass., Jan. 6, 1840; was a student in Harvard University at the outbreak of the Civil War, but left to enter the army; was wounded in the battle of Ball's Bluff, suffering the loss of a leg; but continued in the service; was twice wounded at Port Hudson; and in the battles of the Wilderness, while leading the 57th Massachusetts Regiment, was again wounded, taken prisoner, and sent to Libby Prison. At the close of the war, he was made a Major-General of Volunteers for distinguished services in the field. He died Dec. 17, 1876.

Bartolini, Lorenzo, an Italian sculptor, born at Vernio, in Tuscany, in 1777; went to Paris while still a young man. His chief patron was Napoleon, who, in 1808, sent him to Carrara, to establish a school of sculpture. Besides an immense number of busts, he produced several groups, the most celebrated are "Charity," "Hercules and Lycas." He died 1850.

Bartolomeo, di San Marco, Fra, or **Baccio Della Porta,** one of the most distinguished masters of the Florentine School of painting, born at Savignano, in Tuscany, in 1469. He was a warm adherent of Savonarola, after whose tragical end in 1500 he took the habit of the cloister. He died in Florence in 1517.

Bartolozzi, Francesco, an engraver, born at Florence in 1725, or acording to others, in 1730, died at Lisbon 1813. In Venice, in Florence, and Milan he etched several pieces on sacred subjects, and then went to London, where he received great encouragement. After forty years' residence in London he went to Lisbon on the invitation of the Prince Regent of Portugal to take the superintendence of a school of engravers, and remained there till his death.

Barton, Andrew, one of Scotland's first great naval commanders; flourished during the reign of James IV., and belonged to a family which for two generations had produced able and successful seaman. In 1497 he commanded the escort which accompaniad Perkin Warbeck from Scotland. After doing considerable damage to English shipping he was killed in 1512.

Barton, Clara, an American philanthropist; born in Oxford, Mass., in 1830; was educated at Clinton, N. Y and early became a teacher, and

founded at Bordentown, N. J., a free school, opening it with six pupils. In 1854 it had grown to 600, when she became a clerk in the Patent Office in Washington. On the outbreak of the Civil War she resigned her clerkship, and became a volunteer nurse in the army hospitals and on the battle-field. On the breaking out of the Franco-Prussian War, in 1870, she aided the Grand Duchess of Baden in preparing military hospitals, assisted the Red Cross Society, and, at the request of the authorities, superintended the distribution of work to the poor of Strasburg, in 1871, after the siege, and in 1872 did a like work in Paris. At the close of the war, she was decorated with the Golden Cross of Baden and the Iron Cross of Germany. On the organization of the American Red Cross Society in 1881, she was made its President. In 1889 she had charge of movements in behalf of sufferers from the floods at Johnstown, Pa.; in 1892 distributed relief to the Russian famine sufferers; in 1896, personally directed relief measures at the scenes of the Armenian massacres; in 1898 took relief to the Cuban reconcentrados, and performed field work during the war with Spain; and in 1900 undertook to direct the relief of sufferers at Galveston, but broke down physically. In 1903 she undertook the re-organization of the Red Cross Society in the United States.

Barton, George Hunt, an American geologist, born in Sudbury, Mass., July 8, 1852; was graduated at the Massachusetts Institute of Technology in 1880; assistant on Hawaiian Government survey, 1881–1883; assistant in Geology in the Massachusetts Institute of Technology in 1883–1884; then Assistant Professor of Geology there; also occupied the corresponding chair in Boston University and the Teachers' School of Science; and was Assistant Geologist of the United States Geological Survey. In 1896 he was a member of the sixth Peary expedition to Greenland. He is the author of many technical papers.

Barton, William, an American military officer, born in Warren, R. I., May 26, 1748; learned the trade of a hatter; but joined the Revolutionary Army soon after Bunker Hill. On the night of July 10, 1777, he performed the exploit which made him famous. Leading 38 men, in four whale-boats, across Narragansett Bay, he surprised and captured the British General, Prescott, at his headquarters, and hurried him away to Washington's camp in New Jersey. Barton received a sword from Congress, and was brevetted Colonel. He was afterward a member of his State Convention which adopted the Federal Constitution. He died in Providence, Oct. 22, 1831. In his later years, like some other heroes of the Revolution, he was much reduced in circumstances and spent some time in a debtors' prison.

Barton, William Paul Crillon, an American botanist, born in Philadelphia, Pa., Nov. 17, 1786; died in Philadelphia, Feb. 29, 1856.

Bartram, John, an American botanist, born in Chester county, Pa., March 23, 1699; died at Kingsessing, near Philadelphia, Pa., Sept. 22, 1777.

Bartram, William, an American botanist and ornithologist, born in Kingsessing, Pa., Feb. 9, 1739; a son of John Bartram. He compiled a list of American birds, which was the best of its kind up to the time of Wilson. He died in Kingsessing, July 22, 1823.

Baruch, in Church history, a son of Neriah, who was a friend of Jeremiah's, and at least occasionally acted as his amanuensis (Jer. xxxii: 12; xxxvi: 4, 17, 32; xliii: 6; xlv: 1; li: 59). Two apocryphal books or letters have been attributed to him.

Barye, Antoine Louis, a French sculptor, born in Paris, Sept. 24, 1795; died in Paris, June 25, 1875.

Baryta, or **Barytes,** or **Oxide of Barium,** the earth present in the minerals witherite (carbonate of barium) and heavy spar (sulphate of barium).

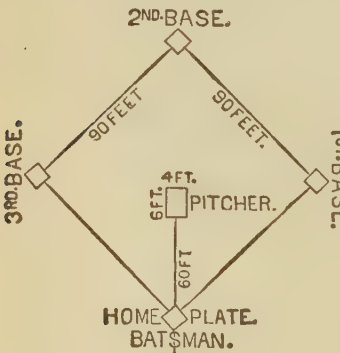
Basalt, a word said to have been derived from an African word, and to have meant basaltoid syenite, from Ethiopia or Upper Egypt. In general the name is given to any trap rock of a black, bluish, or leaden gray color, and possessed of a uniform and compact texture.

Bascinet, or **Basnet,** a light helmet sometimes with, but more frequently without, a visor, in general use for English infantry in the reigns of Edward II. and III., and Richard II

Bascom, Florence, an American educator; daughter of Dr. John Bascom, was educated at the University of Wisconsin, and at Johns Hopkins University, receiving from the first the degree of B. A. and B. L. in 1882, B. S., in 1884, and M. A. in 1887; and from the latter that of Ph. D., in 1892. She was the first woman to whom Johns Hopkins granted a degree, and the first to receive a Ph. D. from any American college. Subsequently, she was engaged in teaching; became professor at Bryn Mawr College; and, in 1899, was chosen to supervise the geological survey of Chester county, Pa.

Bascom, Henry Bidleman, an American clergyman, born in Hancock, N. Y., May 27, 1796. In 1850 he was made a Bishop of the Methodist Episcopal Church. He edited the "Quarterly Review" from 1846 till 1850. His writings were published in 1856. He died in Louisville, Ky., Sept. 8, 1850.

Bascom, John, an American educator and philosophical writer, born at Geneva, N. Y., in 1827. He was President of the University of Wisconsin, in 1874–1887, and in 1900 was Professor of Political Science in Williams College. He has written a number of philosophical works.



BASE BALL DIAMOND.

Base Ball, a field game played principally in the United States. It originated in the English school-boy game of "rounders;" but it has been so improved and so generally played as to merit its name of "the National game of America." The playing of baseball has become largely a business or a "profession," and skilled players receive large salaries. As an amateur game, however, it is also most popular.

Basel Confession of, a Calvinistic confession introduced by Œcolampadius at the opening of the Synod of Basel (1531). It was adopted by the Protestants of Basle in 1534. Simple and comparatively moderate in its terms, it occupies an intermediate place between Zwingli and Luther.

Basel, Council of, a celebrated Ecumenical council of the Church, convoked by Pope Martin V. and his successor, Eugenius IV. It was opened Dec. 14, 1431, under the presidency of the Cardinal Legate Juliano Cesahini of St. Angelo. The objects of its deliberations were to extirpate heresies (that of the Hussites in particular), to unite all Christian nations under the Catholic Church, to put a stop to wars between Christian princes, and to reform the Church. But its first steps toward a peaceable reconciliation with the Hussites were displeasing to the Pope, who authorized the Cardinal Legate to dissolve the Council. That body opposed the pretensions of the Pope. On the Pope continuing to issue bulls for its dissolution the Council commenced a formal process against him, and cited him to appear at its bar. On his refusal to comply with this demand the Council declared him guilty of contumacy, and, in May, 1439, it declared Eugenius, on account of his disobedience of its decrees, a heretic, and formally deposed him. Excommunicated by Eugenius, they proceeded, in a regular conclave, to elect the Duke Amadeus of Savoy to the papal chair. Felix V. — the name he adopted — was acknowledged by only a few princes, cities, and universities. After this the moral power of the Council declined; its last formal session was held May 16, 1443, though it was not technically dissolved till May 7, 1449, when it gave in its adhesion to Nicholas V., the successor of Eugenius.

Bashan, a rich, hilly district, lying E. of the Jordan, and between the mountains of Hermon on the N., and those of Gilead and Ammon on the S. The country takes its name ("fat," "fruitful") from its soft and sandy soil. It is celebrated in Scripture for its stately oaks, fine breeds of cattle, and rich pasturage.

Bashford, James Whitford, an American clergyman, born in Fayette, Wis., May 27, 1849; graduated at the Theological School of Boston University in 1876; became instructor of Greek at the University of Wisconsin in 1874; president of the Wesleyan University of Ohio in 1889; and a bishop in 1904.

Bashi Bazouks, a body of irregular troops in the service of the Turkish Sultan. They are principally of Asiatic races, and formed a contingent of the Turkish army during the Russian War, 1853–1856. As light cavalry they are considered excellent.

Bashkirtseff, Marie, a Russian author, born in Russia in 1860. She died in Paris in 1884.

Basil, St., surnamed THE GREAT, Bishop of Cæsarea, in Cappadocia, where he was born about 326. After extensive travels, St. Basil retired to the Desert of Pontus, and there founded an order of monks. He succeeded Eusebius in the See of Cæsarea in 370. He died in 380.

Basilan, the largest island of the Sulu Archipelago, Philippine Islands. This island is very mountainous, and most of it is covered by virgin forests. The soil is extremely rich and produces a variety of valuable crops, including cotton, coffee, sugar, chocolate, tobacco, indigo, and spices of all sorts. Basilan has about 15,000 inhabitants and three excellent harbors. The name Basilan is also applied to the whole group of 34 adjacent islets. The leading port is Isabela, on Basilan Strait.

Basilica, originally the hall or court-room in which the King administered the laws made by himself and the chiefs who formed his council. Many of the oldest and most splendid of the Roman churches are built on the plan of the basilica, and are called basilicas in consequence.

Basilisk, a fabulous creature formerly believed to exist, and variously regarded as a kind of serpent, lizard, or dragon. The name is now applied to a genus of saurian reptiles with a crest along the back and tail.

Basket Ball, an indoor game played upon a circumscribed space on a floor, usually by five players on each side. At each end of this playing space a basket is placed at a height of about 10 feet. The ball is round, somewhat lighter than a foot-ball, and is passed from one player to another by throwing, or striking with the hands only; the ultimate object being to lodge it in the opponent's basket, which action counts one point. The rules as to interference, playing out of bounds, etc., are adapted from those of foot-ball.

Baskett, James Newton, an American zoologist, born in Kentucky, Nov. 1, 1849; graduated at the Missouri State University in 1872. He has devoted himself to the study of comparative vertebrate anatomy, with ornithology as a specialty.

Basking Shark, a shark, called in English also the sun fish and the sail fish; it is the largest known shark, sometimes reaching 36 feet in length, but it has little of the ferocity seen in its immediate allies. It is called basking because it has a habit of lying motionless on the water, as if enjoying the warmth of the sun.

Basques, or **Biscayans** (in their own language, Euscaldunac), a remarkable race of people dwelling partly in the S. W. corner of France, but mostly in the N. of Spain adjacent to the Pyrenees. They are probably descendants of the ancient Iberi, who occupied Spain before the Celts. They preserve their ancient language, former manners, and national dances, and make admirable soldiers, especially in guerrilla warfare.

Bas-Relief, that is, low relief, as applied to sculpture; a representation of one or more figures, raised on a flat surface or background, in such a manner, however, as that no part of them shall be entirely detached from it. Alto-rilievo, or high relief, is that in which the figures project half of their apparent circumference from the background. Mezzo-rilievo, or middle relief, is a third species, between the two. But, generally speaking, the

first term is made to comprehend both the others.

Bass, in music. (1) The string which gives a bass sound. (2) An instrument which plays the bass part; especially of the violoncello or bass-viol, and the contrabasso or double bass. (3) The lowest of the principal human voices; those higher in pitch being, respectively, baritone, tenor, alto or contralto, mezzo-soprano, soprano.

Bass, the name of a number of fishes of several genera, but originally belonging to a genus of sea fishes of the perch family, distinguished from the true perches by having the tongue covered by small teeth and the preoperculum smooth.

Bass, Edward, first Protestant Episcopal Bishop of Massachusetts, born in Dorchester, Nov. 23, 1726. During the Revolution he omitted from the church service all reference to the royal family and the British Government. For this he was expelled from the Society for Propagating the Gospel. In 1797 he was consecrated Bishop of Massachusetts, and finally also of New Hampshire and Rhode Island. He died in Newburyport, Mass., Sept. 10, 1803.

Basset, a name used with some latitude in France for any very short-legged dogs, but especially for various breeds of sporting dogs resembling (though considerably larger than) the dachshund.

Bassett, James, a Canadian-American missionary, born in Glenford, Ontario, Jan. 31, 1834; served as a chaplain in the Union army in 1862–1863; and afterward in 1871, he went as a missionary to Persia under the direction of the Presbyterian Board. There he finally obtained the establishment of a United States legation in Persia.

Bassett, John Spencer, an American historian, born in Tarboro, N. C., Sept. 10, 1867; Professor of History in Trinity College, N. C., in 1900–1906, then at Smith College.

Bassia, the mohra or moho tree. A large tree growing in the East Indies; it is also found in Africa. The flowers have a heavy, sickening smell, and an intoxicating spirit is distilled from them. It is the Indian butter tree.

Bassora, or **Bussora,** a town of Asiatic Turkey, on the W. bank of the Euphrates, here called the Shat-el-Arab, 56 miles from its mouth in the Persian Gulf. The population, once 150,000, had sunk in 1854 to 5,000, but the establishment of the English Tigris and Euphrates Steamship Company has altogether changed the prospects of Bassora and the town now probably contains at least 40,000 inhabitants, most of them actively engaged in commerce.

Bass Strait, a channel beset with islands, which separates Australia from Tasmania, 120 miles broad, discovered by George Bass, a surgeon in the Royal navy, in 1798.

Basswood, the American lime tree or linden, a tree common in North America, yielding a light, soft timber.

Bastard, an illegitimate child. According to the Roman law, one born out of wedlock might be legitimated by subsequent marriage and acknowledgment of his parents. The Roman law has been long adopted in Scottish law, and in that of some of the United States.

Bastian, Adolf, a German traveler and ethnologist, born in 1826. He has travelled very extensively and his numerous writings throw light on almost every subject connected with ethnology or anthropology, as well as psychology, linguistics, non-Christian religions, geography, etc. D. in 1905.

Bastian, Henry Charlton, an English biologist, born in Truro in 1837. He has been an advocate of spontaneous generation.

Bastien-Lepage, Jules, a French painter, born at Damvilliers, Nov. 1, 1848. De died at the height of his fame, Dec. 10, 1884.

Bastille, properly means any strong castle provided with towers, but as a proper name is applied to a famous castle which once existed in Paris, in which State prisoners and other persons arrested by lettres de cachet were confined. It was founded by Hugues d' Aubriot in 1369, and completed by the addition of four towers in 1383. The lettres de cachet mentioned above were issued in the name of the king, but the names of

the individuals were inserted by the ministers, who were the depositaries of these letters.

The invention of the lettres de cachet immediately opened the door to the tyranny of ministers and the intrigues of favorites, who supplied themselves with these orders, in order to confine individuals who had become obnoxious to them. These arrests became continually more arbitrary, and men of the greatest merit were liable to be imprisoned. On July 14, 1789, the Bastille was surrounded by a tumultuous mob, who first attempted to negotiate with the governor, Delaunay, but this failing attacked the fortress. For hours they continued the siege without being able to effect more than an entrance into the outer court of the Bastille, but at last the arrival of some of the Royal Guard with a few pieces of artillery forced the governor to let down the second drawbridge and admit the populace. The governor was seized, but on the way to the Hôtel de Ville he was torn from his captors and put to death. The next day the destruction of the Bastille, commenced. A bronze column has been erected on its site. The event considered by itself was of no great national importance, but it marked the beginning of the French Revolution.

Bastion, a projecting mass of earth or masonry at the angle of a fortification, having two faces and two flanks, and so constructed that every part of it may be defended by the flank fire of some other part of the fort.

Basutoland, a native province and British South African possession, between the former Orange Free State, Natal, Griqualand East, and Cape Colony. The Basutos belong chiefly to the great stem of the Bechuanas, and have made greater advances in civilization than perhaps any other South African race. Basutoland has an area of about 10,300 square miles, much of it covered with grass, and there is but little wood. The climate is pleasant. Capital, Maseru.

Bat, the common name of all animals of the class mammalia which are furnished with true wings, and so are capable of really flying or propelling themselves in the air. Bats are now generally placed by naturalists in the order cheiroptera, although, like many other animals of that great order, most of them are by no means exclusively

LONG-EARED BAT.

carnivorous. Upward of 130 species have been described, and there is great probability that the actual number existing is very much greater.

Batanes, a group of small islands in the extreme N. of the Philippines, over which, and Cagayan, nearby, American control was established in March, 1900. Pop. (1903) 46,787.

Batangas, a province of Luzon, Philippine Islands; on the S. W. coast of the main body of Luzon: area, 1,108 square miles; pop. (1903) 257,715, all civilized; dominant race, Tagalog; capital, Batangas. It contains 22 pueblos.

Batavia, properly the name of the island occupied by the ancient Batavi, became at a later date the Latin name for Holland and the whole kingdom of the Netherlands.

Batavia, village and capital of Genesee county, N. Y.; on Tonawanda creek and the New York Central & Hudson River and other railroads; 37 miles E. of Buffalo; is in a farming section; has varied industries; and is the seat of the State Institution for the Blind and the Dean Richmond Memorial Library. Pop. (1910) 11,613.

Batavia, a city and seaport of Java, on the N. coast of the island, the capital of all the Dutch East Indies, founded in 1619. Its inhabitants are chiefly Malay, with an admixture of Chinese and a small number of Europeans. Pop. (1897) 115,567.

Batchelder, Richard Napoleon, an American military officer, born in Lake Village, N. H., July 27, 1832;

entered the Union army at the beginning of the Civil War; and was brevetted Brigadier-General, United States Volunteers, March 13, 1865; became Brigadier-General and Quartermaster-General, United States Army, June 26, 1890; and was retired July 27, 1896. He was awarded a Congressional medal of honor for most distinguished gallantry in action during the Civil War.

Batcheller, George Sherman, an American jurist; born in Batchellerville, N. Y., July 25, 1837; graduated at Harvard University; was admitted to the bar in 1858; entered the Union army at the beginning of the Civil War; was taken prisoner at Harper's Ferry, and exchanged in 1863. In 1889 he became Assistant Secretary of the United States Treasury; in 1890, United States Minister-Resident, and Consul-General to Portugal; and in 1897, a member of the International Tribunal of Egypt again. In the last year he received from King Humbert the decoration of the great cordon of the Order of the Crown of Italy, in recognition of his services as President of the Universal Postal Congress which met in Washington in May, 1897. D. in 1908.

Bate, William Brimage, an American legislator, born near Castalian Springs, Tenn., Oct. 7, 1826. In the Civil War he rose from private to the rank of Major-General in the Confederate army, and was three times dangerously wounded. He was an Elector-at-Large for Tennessee on the Democratic ticket in 1876; was elected Governor in 1882 and a U. S. Senator, 1887, 1893, 1899. He died Mar. 9, 1905.

Bateman, Kate Josephine, an American actress, born in Baltimore, Md., Oct. 7, 1842. About 1851 she and her sister Ellen began to act, they being known as the Bateman Sisters. She became rich and famous, and, having married George Crowe, an English physician, identified herself with the management of a London theater.

Bates, Alfred E., an American military officer, born in Monroe, Mich., July 15, 1840; was a Brigadier-General of Volunteers in the war with Spain in 1898.

Bates, Arlo, an American author, born in East Machias, Me., Dec. 16, 1850. He graduated from Bowdoin in 1876, when he engaged in literary work in Boston, and afterward became Professor of English Literature in the Massachusetts Institute of Technology.

Bates, Charlotte Fiske, an American poet and miscellaneous prose-writer, born in New York city, Nov. 30, 1838. She was married in 1891 to Adolphe Rogé, who died in 1896.

Bates College, an educational institution at Lewiston, Me. This was the first college in the East to provide for the higher education of women. In 1902 it had a faculty of 22, and about 350 students.

Bates, Edward, an American lawyer, born in Belmont, Va., Sept. 4, 1793. He was Attorney-General of the United States in Lincoln's first administration; and had been a candidate for the presidential nomination in 1860. He died in St. Louis, Mo., March 25, 1869.

Bates, Harriet Leonora (Vose), better known as ELEANOR PUTNAM, an American story and sketch writer, wife of Arlo Bates, born in 1856; died in 1886.

Bates, Henry Walter, an English naturalist, born in Leicester, Feb. 18, 1825. In 1848 he began an exploration of the Amazon region in Brazil. He died in London, Feb. 16, 1892.

Bates, John Coalter, an American military officer, born in St. Charles co., Mo., Aug. 26, 1842; educated at Washington University, St. Louis; entered the regular army as a Lieutenant in the 11th United States Infantry, May 14, 1861; served on the staff of General Meade from the battle of Gettysburg to the close of the war; promoted Captain, May 1, 1863; Major, May 6, 1882; and Colonel of the 2d United States Infantry, April 25, 1892. On May 4, 1898, he was appointed a Brigadier-General of Volunteers; on July 8, was promoted Major-General for his services in the Santiago campaign; on April 13, 1899, was honorably discharged under this commission, and on the same day was recommissioned a Brigadier-General of

Volunteers. In February, 1899, he was appointed Military Governor of the province of Santa Clara, Cuba, and in April following, was ordered to duty in the Philippines, where he several times greatly distinguished himself in the latter part of that year and the early part of 1900. In March, 1900, he was assigned to the command of the department of Southern Luzon; was promoted Major-General, U. S. A., June 9, 1902, and Feb. 1, 1906, was promoted Chief of Staff and Lieutenant-General.

Bates, Joshua, an American financier, born in Weymouth, Mass., in 1788. Mr. Bates was the principal founder of the Boston Public Library, and in 1852, the first year of its existence, he made it a gift of $50,000, and later gave it 30,000 volumes. Died in London, Sept. 24, 1864.

Bates, Katharine Lee, an American story writer, poet, and educator, born in Falmouth, Mass., Aug. 12, 1859; was called to the chair of English Literature in Wellesley College in 1891; has edited collections of ballads, etc.; and written juvenile stories.

Bates, Samuel Penniman, an American historian, born in Mendon, Mass., Jan. 29, 1827. He was State Historian of Pennsylvania, 1866–1873.

Batfish, a fish found in the waters of Florida and the West Indies; noted for its peculiar shape. Its ventral and pectoral fins resemble the legs of a frog.

Bath, Order of the, in heraldry, etc., an order of knighthood, so called because the recipients of the honor were required formerly to bathe the evening before their creation. It was instituted by Henry IV. in 1399, and, falling into disuse, was revived by George I. in 1725.

Bath Chair, a small carriage or chair on wheels, drawn by a chairman, and intended for the conveyance of invalids or others for short distances.

Bathometer, an instrument for measuring the depth of sea beneath a vessel without casting a line.

Bathori, a Hungarian family, which gave Transylvania five princes, and Poland one of its greatest kings.

Bathori, Elizabeth, niece of Stephen, King of Poland, and wife of Count Nadasdy, of Hungary; a historical monster. By means of large bribes, she induced an old man servant and two female servants to kidnap and convey to her, either by stratagem or force, young girls from the neighboring country, whom she slowly put to death in the dungeons of her castle by the most horrible tortures. Inquiry was at length made into the appalling rumors, when it was discovered that this female fiend had murdered in cold blood, not fewer than 650 maidens. The domestics who assisted her were either beheaded or burned alive. The Countess, who merited certainly the greater punishment, died quietly in 1614, in her fortress of Esej, where she had been confined for life.

Bath-sheba, the wife of Uriah. David caused her husband to be slain, and afterward took her to wife. These sins displeased Jehovah, who sent the prophet Nathan to David, with the parable of the ewe lamb. David bitterly repented, but yet was punished. Bath-sheba was the mother of Solomon, whose succession to the throne she took pains to secure.

COLLAR AND BADGE, ORDER OF BATH.

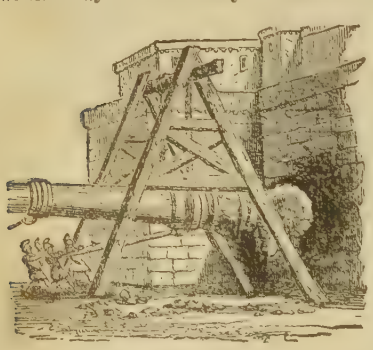
Baton, a short staff or truncheon, in some cases used as an official badge, as that of a field marshal. The conductor of an orchestra has a baton for the purpose of directing the per-

formers as to time, etc. In heraldry the bastard bar is a baton sinister.

Baton Rouge, city and capital of the State of Louisiana and of East Baton Rouge parish; on the Mississippi river and several railroads; 89 miles N. W. of New Orleans; built on a bluff commanding a fine view of its environment. Besides the State Capitol, it contains the State University, State Penitentiary, State Asylums for the Deaf, Dumb, and Blind, insane asylum, and many charitable institutions. It was the State capital in 1847–1864 and since 1880. The State ordinance of secession was adopted here in 1861, and the city was held by Federal troops in 1862–65. Pop. (1910) 14,897.

Batoum, or **Batum**, a Russian port on the E. coast of the Black Sea.

Battering Ram, an ancient military contrivance used for battering down walls. It existed among the Assyrians, the Greeks, and the Romans. It consisted of a pole or beam of wood, sometimes as much as 80, 100, or even 120 feet in length. It was suspended by its extremities from a single point, or from two points in another beam above, which lay horizontally across two



BATTERING RAM.

posts. When at rest it was level, like the beam above it. When put in action against a wall, it was swung horizontally by men who succeeded each other in constant relays, the blow which it gave to the masonry at each vibration being rendered all the more effective that one end of it was armed with iron.

Battery, in law, the unlawful beating of another, or even the touching him with hostile intent. In military usage, a certain number of artillerymen united under the command of a field officer, and the lowest tactical unit in the artillery. In a battery there are gunners who work the guns, and drivers who drive the horses by which these guns are transported from place to place. Batteries are usually distinguished as horse, field, and garrison.

Batthyanyi, one of the oldest and most powerful of the noble families of Hungary, which traces its origin as far back as the invasion of Pannonia by the Magyars, in 884 A. D., and has given to Hungary many distinguished warriors, statesmen, and churchmen.

Battle, a town in Sussex, England, 6 miles N. W. of Hastings. An uninhabited heathland then, Senlac by name, it received its present name from the battle of Hastings, fought here on Oct. 14, 1066, which won England for the Normans.

Battle, Cullen Andrews, an American military officer; born in Powelton, Ga.; June 1, 1829. At the outbreak of the Civil War he entered the Confederate army, and during the war was wounded seven times, promoted Brigadier-General on the field of Gettysburg, and Major-General in October, 1864. After the war he devoted most of his time to journalism in Newbern, N. C. D. in 1905.

Battle, Kemp Plummer, an American educator; born in Franklin Co., N. C., Dec. 19, 1831; graduated at the University of North Carolina in 1849; was a member of the State Convention of North Carolina in 1861 that passed the ordinance of secession; State Treasurer, 1866–1868; president of the University of North Carolina, in 1876–1891; and afterward Professor of History there.

Battle, Lorenzo, an Uruguayan military officer; born in Montevideo, in 1812. He was minister of war in 1866–1868; and president of the republic in 1868–1872, when he resigned and resumed military service.

Battle, Trial by, or **Wager of** (originally battel), an old method of deciding disputes by personal combat.

Battle Creek, a city in Calhoun county, Mich.; on the Kalamazoo river and the Michigan Central and other railroads; 45 miles S. W. of Lansing; is largely engaged in manufacturing, producing, among other commodities, a vast amount of breakfast and health foods. It is the seat of Battle Creek College (Adv.), and one of the largest sanitaria in the country. Pop. (1910) 25,267.

Battle-Ground, a town in Tippecanoe co., Ind., where the famous battle of Tippecanoe was fought between the United States troops under General Harrison and the Indians under Tecumseh and his brother, "The Prophet," on Nov. 7, 1811.

Battlement. (1) A wall or rampart built around the top of a fortified building, with interstices or embrasures to discharge arrows or darts, or fire guns through. (2) A similar erection around the roofs of churches and other Gothic buildings, where the object was principally ornamental. They are found not only upon parapets, but as ornaments on the transoms of windows, etc. (3) A wall built around a flat-roofed house, in the East and elsewhere, to prevent any one from falling into the street, area, or garden.

Battleship, a warship of the heaviest class, designed for fighting in line of battle. Her armor is the least vulnerable, her guns are the heaviest, and the qualities of the cruiser and armored cruiser are subordinated to protection and armament. Among notable modern battleships are the U. S. vessels "So. Carolina" and "Michigan;" the British "King Edward," "Lord Nelson," and "Dreadnought;" the Japanese "Katori" and "Kashima." See DREADNAUGHTS.

Batum, or **Batoum,** a port on the east coast of the Black Sea, acquired by Russia by the Treaty of Berlin, on condition that its fortifications were dismantled and it were thrown open as a free port. It rapidly grew to be the main outlet for Transcaucasia, including the traffic in petroleum, immense quantities of which are shipped; its harbor was enlarged for alleged commercial reasons; an arsenal was built outside it; it was connected by a military road with Kars; and finally, in July, 1886, the Russian government declared it to be a free port no longer. Its importance as a naval and military station to Russia is unquestionably great, and it will probably rank as one of the strongest positions on the Black Sea. The water is of great depth close inshore, and the shipping lies under protection of the overhanging cliffs of the Gouriel Mountains. Pop. over 30,000.

Baudelaire, Charles, a French poet, born April 9, 1821; died 1867. He was the herald, if not the founder of the so called decadent school of French literature. He seems to have striven to be as offensive as possible in the expression of his peculiar views of life, nature and God, yet his work will live because of its wonderful technique, which is not equalled in French poetry.

Baudry, Paul, a French painter, born Nov. 7, 1828, at La Roche-sur-Yon; died Jan. 17, 1886.

Bauer, Wilhelm, a German inventor, born in Dillingen, in 1822. He served as an artilleryman during the Schleswig-Holstein War (1866), and, meanwhile, conceived the plan of a submarine vessel for coast defense. It was subsequently adopted by Russia. He afterward made improvements in torpedoes. He died in 1875.

Bauernfeld, Eduard von, an Austrian dramatist, born in Vienna, Jan. 13, 1802; died Aug. 9, 1890.

Baum, Friedrich, a German military officer in the British service in the Revolutionary War. He arrived in Canada in 1776, and in Burgoyne's expedition acted as Lieutenant-Colonel of the Brunswick dragoons. He was sent out with 800 men and two pieces of artillery on a foraging expedition. Near Bennington, Vt., he was attacked by the New Hampshire militia under Stark, and utterly defeated. He himself was killed Aug. 16, 1777.

Bauxite, a mineral occurring in round, concretionary, disseminated grains; found extensively in France and other parts of Europe, and in the United States, principally in Alabama and Georgia. The purest bauxite is called aluminum ore, because commercial aluminum is made from it.

Bausset, Louis Francois, Cardinal, born in Pondiccherry, India, Dec. 14, 1748. His father, who held an important position in the French Indies, sent young Bausset to France when he was but 12 years of age. He was educated by the Jesuits, and became bishop of Alais in 1784. After the restoration of Louis XVIII., in 1815, he entered the Chamber of Peers; the following year he became a member of the French Academy; and, in 1817, he received the appointment of Cardinal. He died in Paris, June 21, 1824.

Bautain, Louis Eugene Marie, a French philosopher, born in Paris, Feb. 17, 1796; died Oct. 18, 1867.

Bavaria, a kingdom of Central Europe, in the S. of Germany, composed of two isolated portions of unequal size. Bavaria is estimated to contain an area of 29,286 English square miles, and is divided into eight circles (kreise). The total population in 1900 was 6,175,153.

Bavaria is one of the most favored countries in Germany, in respect of the fruitfulness of its soil. In the plains and valleys the soil is capable of producing all kinds of crops. The forests of Bavaria, composed chiefly of fir and pine trees, cover nearly a third of its entire surface, and yield a large revenue to the State; much timber being annually exported, together with potashes, tar, turpentine, and other products peculiar to these wooded regions. The principal mineral products are salt, coal, and iron. Some of the mining works belong to the State, and contribute something to the public revenue; but the minerals are not wrought to the extent they might be. In the rearing of cattle and sheep the Bavarians are somewhat backward. Swine are reared in great numbers in all parts of the country, and poultry and wild fowl are abundant. The wolves and bears, with which the forests of Bavaria were at one time infested, are nearly extinct.

The manufactures of Bavaria are singly not very important, being mostly on a small scale, and conducted by individuals of limited capital. The principal articles manufactured are linens, woolens, cottons, silks, leather, paper, glass, earthen and iron and steel ware, jewelry, etc., but the supply of some of these articles is inadequate to the home consumption. Of leather, paper, glass, and ironware, rather large quantities are exported. The optical and mathematical instruments made at Munich are the best on the Continent, and are prized accordingly. But the most important branch of manufacture in Bavaria is the brewing of beer — the universal and favorite beverage of the country.

There are over 7,400 schools in Bavaria, attended by more than 830,000 pupils. Attendance at school is compulsory up to 14 years of age. There are three universities in Bavaria — two of which (Munich and Wurzburg) are Roman Catholic, and one (Erlangen) Protestant. The capital, Munich, contains a library of 800,000 volumes, including 25,000 MSS.; several scientific and literary institutions, academies, and national societies, and extensive collections of works of art.

The religion of the State is Roman Catholicism, which embraces more than 70 per cent. of the population. The Protestants number about 21 per cent.; the Hebrews 1 per cent., the remainder being Mennonites, etc.

Bavaria was formerly a member of the Germanic Confederation, and now forms part of the German empire. The executive is in the hands of the king. The legislature consists of two chambers — one of senators, and one of deputies; the former composed of princes of the royal family, the great officers of the State, the two archbishops, the heads of certain noble families, a bishop named by the king, the president of the Protestant General Consistory, and any other members whom the king may create hereditary peers; the latter, of members chosen indirectly, one to every 31,500 persons of the total population.

In 1805 Bavaria was raised, by the treaty of Presburg to the rank of a kingdom, with some further accessions of territory, all of which were confirmed by the treaties of 1814 and 1815. In the war of 1866 Bavaria sided with Austria, in consequence of which it was obliged, by the treaty of August 22 in the same year, to cede a small portion of its territory to Prussia, and to pay a war indemnity of 30,000,000 florins. Soon after Bavaia entered into an alliance with Prussia, and in 1867 joined the Zoll-

verein under Prussian regulations. In the Franco-German War of 1870–1871 Bavaria took a prominent part, and since 1871 it has been one of the constituent States of the German empire, represented in the Bundesrath by 6; in the Reichstag by 48 members. In 1886 King Louis II. committed suicide from alienation of mind. His brother Otto succeeded, but he being also insane, his uncle Luitpold became regent.

Bax, Ernest Belfort, an English socialist; born in Leamington, July 23, 1854. He wrote a large number of works on socialistic and historical subjects.

Baxter, Richard, an English Nonconformist preacher and theological writer; born in Shropshire in 1615. He early entered the Church, and, taking sides with the Parliamentary party, became chaplain to one of the regiments of the Commonwealth. But, either his Republican opinions were offensively prominent or his enemies took advantage of his public preaching to denounce him; for, after enduring much persecution, he, then 70 years old, was brought before Judge Jeffreys, who abused him in court, and fined him £500, with imprisonment till paid. Baxter was a prolific writer, a large portion of his works being polemical and now little read. He died Dec. 8, 1691.

Baxter, William, an American clergyman and author, born at Leeds, England, in 1820. President of Arkansas College, Fayetteville; when it was burned in the Civil War, he removed to Cincinnati.

Bay, an arm or inlet of the sea extending into the land, with a wider mouth proportionally than a gulf.

Bay, a berry, and especially one from some species of the laurel; also the English name of the laurus nobilis. A fine tree, with deep green foliage and a profusion of dark purple or black berries.

Bayadere, a name originally given by the Portuguese to the singing and dancing girls of Hindustan. They are of two kinds — those who are employed as priestesses in the temples, and those who go about the country as itinerants. The former class celebrate with song and dance the festivals of the gods; the latter are employed by the grandees of India to amuse and cheer them at their banquets.

Bayamo, or **San Salvador,** a town in the interior of the E. part of the island of Cuba, situated in a fertile and healthy district on the northern slope of the Sierra Maestra. It is connected by a railway with Manzanilla.

Bayard, or more properly **Bayart, Pierre du Terrail, Chevalier de,** called the "knight without fear and without reproach"; born in 1476, in the castle of Bayard, near Grenoble, was one of the most spotless characters of the Middle Ages. He was simple and modest; a true friend and tender lover; pious, humane, and magnanimous. He died April 30, 1524.

Bayard, Thomas Francis, an American statesman and diplomatist, born in Wilmington, Del., Oct. 29, 1828. He was admitted to the bar in 1851 and practiced law until 1868, when he succeeded his father, James A. Bayard, in the United States Senate. In the Democratic National Convention of 1872 he received 15 votes for the presidential nomination, and in 1880 and 1884 his name was voted on in the National conventions. In 1885 Mr. Bayard was chosen Secretary of State, and in 1892, was appointed United States Ambassador to the Court of St. James, being the first to bear that title. Mr. Bayard filled this office with high honor to himself and his country. During his official residence in London he was the recipient of marked attentions, and by his public utterances and his engaging personality promoted the best feeling in both social and government circles. He died in Dedham, Mass., Sept. 28, 1898.

Bay City, city and capital of Bay county, Mich., on the Saginaw river and several railroads; 13 miles N. of Saginaw; includes since 1905 the former city of West Bay City, on the opposite side of the river. The city is a port of entry; is in a rich farming section; and is engaged in manufacturing, the salt industry, the fisheries, and the cultivation of beet sugar and chicory. Pop. (1910) 45,166.

Bayeux, an ancient city of Normandy, in the French Department of Calvados, on the Aure. — The Gothic cathedral — the oldest, it is said, in Normandy — was rebuilt after a fire by William the Conqueror, in 1077; but the present edifice dates mainly from 1106 to the 13th century.

Bayeux Tapestry, a celebrated roll of linen cloth or canvas, 214 feet in length and 20 inches wide, containing, in 72 distinct compartments, a representation, in embroidery, of the events of the Norman invasion of England, from Harold's leave-taking of Edward the Confessor, on his departure for Normandy, to the battle of Hastings. It contains the figures of 623 men, 202 horses, 55 dogs, 505 animals of various kinds not hitherto enumerated, 37 buildings, 41 ships and boats, and 49 trees — in all 1,512 figures. These are all executed by the needle, and are believed to have been the handiwork of Matilda, the queen of William the Conqueror, and by her presented to the Cathedral of Bayeux. This piece of tapestry is exceedingly valuable, both as a work of art of the period referred to, and as correctly representing the costume of the time. It has been engraved, and several works upon the subject have been published.

Bay Islands, a small group in the Bay of Honduras, 150 miles S. E. of Balize. The cluster was proclaimed a British colony in 1852, but in 1859 they were ceded to the Republic of Honduras.

Bayle, Pierre, French critic and miscellaneous writer, the son of a Calvinist preacher, born at Carlat (Languedoc) in 1647, died at Rotterdam 1706. His chief work is a Dictionary of History and Criticism, which he first published in 1696. This work, much enlarged, has passed through many editions. It is a vast storehouse of facts, discussions, and opinions, and though it was publicly censured by the Rotterdam consistory for its frequent impurities, its pervading scepticism, and tacit atheism, it long remained a favorite book both with literary men and with men of the world. The articles in his dictionary, in themselves, are generally of little value, and serve only as a pretext for the notes, in which the author displays, at the same time, his learning and the power of his logic.

Bayley, James Roosevelt, an American theologian, born in New York city, Aug. 23, 1814; studied at Trinity College, Hartford, and became minister of the Protestant Episcopal Church; but, in 1842, was converted to the Roman Catholic faith; and, after studying at Paris and Rome, became a priest in 1844. After serving as secretary to Archbishop Hughes, he was consecrated the first Bishop of Newark, N. J., in 1853. In 1872 he became Archbishop of Baltimore, Md. He was the founder of Seton Hall College and several other institutions. He died in Newark, N. J., Oct. 3, 1877.

Bayley, William Shirley, an American geologist, born in Baltimore, Md., Nov. 10, 1861; graduated at Johns Hopkins, in 1883; since 1887 has been Assistant Geologist of the Lake Superior division of the United States Geological Survey, and since 1886 associate editor of the "American Naturalist."

Baylor University, a coeducational institution in Waco, Tex.; now under the auspices of the Baptist Church.

Bayly, Ada Ellen, an English novelist, best known as EDNA LYALL.

Bayly, Thomas Haynes, an English song-writer and author; born in Bath, Oct. 13, 1797. After deserting successively both law and church, Bayly, during a short sojourn in Dublin, first discovered his powers as a ballad writer and achieved his earliest successes. He died April 22, 1839.

Baynes, Thomas Spencer, an English editor, born in Wellington, Somerset, in 1823. He studied under Sir William Hamilton at Edinburgh, and in 1864 he was appointed to the Chair of Logic, Rhetoric, and Metaphysics in St. Andrews University, a post he held till his death, in London, in 1887.

Bayonet, a straight sharp-pointed weapon, generally triangular, intended to be fixed upon the muzzle of a rifle or musket, which is thus transformed into a thrusting weapon. It was probably invented about 1640, in Bayonne (though this is doubtful), but was not universally introduced

until after the pike was wholly laid aside, in the beginning of the 18th century. About 1690 the bayonet began to be fastened by means of a socket to the outside of the barrel, instead of being inserted as formerly in the inside. A variety of the bayonet, called the sword bayonet, is widely used.

Bayonne, a city in Hudson county, N. J.; on New York harbor, Newark bay, and the Central Railroad of New Jersey; 7 miles S. W. of New York city; is principally engaged in shipping coal and refining petroleum; and has a fine residential section. Pop. (1910) 55,545.

Bayonne Conference, a conference held at Bayonne, in June, 1565, between Charles IX. of France, the queen mother, Catherine de Medicis, Elizabeth, Queen of Spain, and the Duke of Alva, envoy of Philip II., to arrange plans for the repression of the Huguenots. It is generally believed that the massacre of St. Bartholomew's Day was determined upon at this meeting.

Bayonne, Treaty of, a treaty of peace agreed to May 4, 1808, and signed on the next day, between Napoleon I. and Charles IV., King of Spain. The latter resigned his kingdom, and Napoleon I. engaged to maintain its integrity, and to preserve the Roman Catholic religion. His son, Ferdinand VII., confirmed the cession May 10.

Bayreuth. See BEYROUT.

Bayrhoffer, Karl Theodore, a German Hegelian philosopher, and radical politician, born in Marburg in 1812, was Professor of Philosophy there, taking the chair in 1845. In 1846 his radical views caused his expulsion. During the brief rule of liberalism in Hesse, he was chosen president of the Chamber; but, in 1853, he was forced to flee to the United States. He died in Jordan, Wis., Feb. 3, 1888.

Bay Rum, an aromatic, spirituous liquid, used by hair dressers and perfumers, prepared in the West Indies by distilling rum in which bay leaves have been steeped.

Bay Salt, a general term for coarse grained salt, but properly applied to salt obtained by spontaneous or natural evaporation of sea water in large shallow tanks or bays.

Bay Window, a window projecting beyond the line of the front of a house, generally either in a semi-hexagon or semi-octagon.

Bazaine, Francois, Achille, a French military officer, born in Versailles, Feb. 13, 1811. He served in Algeria, in Spain against the Carlists, in the Crimean War, and joined the Mexican expedition as general of division, in 1862, and, in 1864, was made a marshal of France. He commanded the 3d Army Corps in the Franco-Prussian War, when he capitulated at Metz, after a seven weeks' siege, with an army of 175,000 men. For this act he was tried by court-martial in 1871, found guilty of treason and condemned to death. This sentence was commuted to 20 years' seclusion in the Isle St. Marguerite, from which he escaped and retired to Spain. He died in Madrid, Sept. 23, 1888. His widow, who had clung faithfully to him in his adversity, and had plotted successfully for his escape, died in Mexico City, Jan. 8, 1900. She was a woman of aristocratic birth and much beauty.

Bazan, Emilia Pardo, a Spanish author, born in Coruna, in 1852; published works on history and philosophy, and was the author of "Studies in Darwinism," "Saint Francis of Assisi," and many novels. These, translated into English, have become very popular.

Bazar, an exchange; a market place; a place where goods are exposed for sale. Bazar is a term originally derived from the Arabic, and literally signifies the sale or exchange of goods. The name has of late years been adopted in many American and European cities, and is applied to places for the sale of fancy goods, etc.

Baztau, or **Bastau,** a Pyrenean valley in the extreme N. of Spain; having a length of 9 miles, and an average breadth of 4 miles. It is inhabited by about 8,000 people, who form, under Spanish supervision, a sort of diminutive republic, at the head of which is the mayor of Elizondo. The citizens of this republic rank with the Spanish nobility and hold special privileges, which were granted

them for former services to the Spanish crown.

Bdellium, in Scripture, is in Hebrew bedholachh, rendered in the Septuagint of Gen. ii: 12, anthrax (literally, burning coal). Some modern writers, following the Septuagint translation, make it a mineral, as are the gold and the onyx stone, with which it is associated in Gen. ii: 12. Others think that it was the gum described below; while the Rabbins, Bochart, and Gesenius consider that it was a pearl, or pearls.

Beach, Alfred Ely, an American publisher and inventor, born in Springfield, Mass., in 1826; son of Moses Yale Beach, editor of the old New York "Sun." In 1846 he established the "Scientific American," in connection with Orson D. Munn. For nearly 50 years he was editor of this paper and director of its patent business. He died in New York city, Jan. 1, 1896.

Beach, Amy Marcy Cheney, an American composer, and one of the chief of the few women who are distinguished as creative musicians. She was born in New Hampshire, Sept. 5, 1867. Her most important works are "The Gaelic Symphony," for full orchestra, a "Jubilate," written for the dedication of the Woman's Building at the Chicago Exposition, and a cyclus of fourteen songs.

Beach, Moses Yale, an American publisher and inventor, born 1800; died 1868. He became owner of the New York "Sun" three years after its establishment. His inventions relate to the manufacture of paper, and include a rag-cutting machine.

Beaconsfield, Benjamin Disraeli, Earl of, an English statesman and author; born in London, England, Dec. 21, 1804; the eldest son of Isaac D'Israeli, the well-known author of the "Curiosities of Literature"; his mother also being of Jewish race. Little is known of his early education, though it is certain he never attended a public school or a university. In 1817 he was baptized into the Church of England. He acquired a good reputation as an author, and sought eminence in politics.

His first appointment to office was in 1852, when he became chancellor of the exchequer under Lord Derby. In February, 1868, he reached the summit of his ambition, becoming premier on the resignation of Lord Derby, but being in a minority after the general election he had to give up office the following December. In 1874 he again became prime minister with a strong Conservative majority, and he remained in power for six years. This period was marked by his elevation to the peerage in 1876 as Earl of Beaconsfield, and by the prominent part he took in regard to the Eastern question and the conclusion of the treaty of Berlin in 1878, when he visited the German capital.

In the spring of 1880 Parliament was rather suddenly dissolved, and the new Parliament showing an overwhelming Liberal majority, he resigned office, though he still retained the leadership of his party. Not long after this, the publication of a novel called "Endymion" (his last, "Lothair," had been published 10 years before) showed that his intellect was still vigorous. His physical powers, however, were now giving way, and he died April 19, 1881, after an illness of some weeks' duration. His wife had died in 1872 after having been created Viscountess Beaconsfield.

Bead Snake, a beautiful little snake, variegated with yellow, carmine, and jet black. Though venomous, it rarely uses its fangs. It is about two feet long.

Beagle, a small hunting dog.

Beagle Island, an island discovered by Admiral Fitzroy, during a voyage in the "Beagle," to survey Patagonia, in 1828–1834. The channel of the same name is on the S. side of the Island of Tierra del Fuego.

Beal, George Lafayette, an American military officer, born in Norway, Me., May 21, 1825. When the Civil War broke out, he was captain of the Norway Light Infantry. On Jan. 15, 1866, he was mustered out of service with the brevet of Major-General of Volunteers. In 1880–1885 he was adjutant-general of Maine, and in 1888–1894, State treasurer. He died in Norway, Me., Dec. 11, 1896.

Beale, Edward Fitzgerald, an American diplomatist, born in Washington, D. C., Feb. 4, 1822; graduated

at the United States Naval Academy in 1842, and at the beginning of the Mexican War was assigned to duty in California, under Commodore Stockton. After the war, he resigned his naval commission and was appointed Superintendent of Indian Affairs for California and New Mexico. He was commissioned a Brigadier-General in the army by President Pierce. He served in the Union army in the Civil War, and at its close engaged in stock raising in Los Angeles, Cal., till 1876, when President Grant appointed him United States Minister to Austria. He died in Washington, D. C., April 22, 1893.

Beale, Lionel Smith, an English physiologist and microscopist, born in London, Feb. 5, 1828. He is a member of the Royal Medical and Chirurgical, the Microscopical, and other English and foreign societies, and is the author of a number of medical and scientific works.

Beall, John Young, a Confederate guerilla, born in Virginia, Jan. 1, 1835; was appointed an acting master in the Confederate naval service in 1863. On Sept. 19, 1864, he and a number of followers were shipped on the Lake Erie steamer "Philo Parsons" as passengers, and at a given signal, took possession of the vessel, making prisoners of the crew. They also scuttled another boat, the "Island Queen," and tried to wreck a railroad train near Buffalo, N. Y. In spite of a proclamation of Jefferson Davis assuming the responsibility of this expedition, Beall was hanged on Governor's Island, New York, Feb. 24, 1865, on the ground that, if acting under orders, he should have shown some badge of authority.

Beam, a long, straight and strong piece of wood, iron, or steel, especially when holding an important place in some structure, and serving for support or consolidation; often equivalent to girder. In a balance it is the part from the ends of which the scales are suspended. In a loom it is a cylindrical piece of wood on which weavers wind the warp before weaving; also, the cylinder on which the cloth is rolled as it is woven. In a ship, one of the strong transverse pieces stretching across from one side to the other to support the decks and retain the sides at their proper distance; hence, a ship is said to be on her beam ends when lying over on her side.

Beaming, the art of winding the web on the weaver's beam in a manner suitable for weaving, with regard to firmness and evenness. It is to some extent a special employment, followed by workmen trained as beamers.

Bean, a well known cultivated plant which may be primarily divided into the garden bean and the field bean. Of the former, there are numerous sub-varieties. The earliest is the mazagan, which is small seeded; while the largest is the windsor. The field bean runs into two leading sub-varieties, a larger and a smaller one. The navy bean is the common white bean used as an article of diet.

The word is also applied to any leguminous plant resembling a bean, though not of the genuine genus. Such, for example, as the Florida bean, which is the seed, not the fruit, of a West Indian plant. These seeds are washed up on the Florida shore, and are sometimes used as food, and sometimes they are polished and used as ornaments.

Bean, Nehemiah S., an American inventor, born in Gilmanton, N. H., in 1818; learned the machinist's trade. In the winter of 1857–1858 he built his first steam fire engine, which he named the "Lawrence," and sold it to the city of Boston. In 1859 he took the management of the Amoskeag Locomotive Works in Manchester, where he had been employed in 1847–1850. During 1859 he built the "Amoskeag Steam Fire Engine, No. 1," the first of a class of engines which now is used everywhere. He died in Manchester, N. H., July 20, 1896.

Bean, Tarleton Hoffman, an American ichthyologist, born in Bainbridge, Pa., Oct. 8, 1846; graduated at Columbian University in Washington, in 1876. He was curator of the Department of Fishes, United States National Museum, in 1880–1895; represented the United States Fish Commission at the World's Columbian Exposition in 1893, and at Atlanta in 1895, Paris in 1900, and St. Louis in 1904; became New York State Fish Culturist in 1906.

Bear, the English name of the various species of plantigrade mammals belonging to the ursus and some neighboring genera. The term plantigrade, applied to the bears, intimates that they walk on the soles of their feet; not, like the digitigrade animals, on their toes. Though having six incisor teeth in each jaw, like the rest of the carnivora, yet the tubercular crowns of the molar teeth show that their food is partly vegetable. They grub up roots, and, when they can obtain it, greedily devour honey. They hibernate in winter. The best known species is ursus arctos, the brown bear, the one sometimes seen dancing to the amusement of children in the streets. They are wild in this country, on the continent of Europe, and in Asia. The grizzly bear, black bear and Polar bear are well known in menageries.

In Stock Exchange parlance, a bear is one who contracts to sell on a specified day certain stock not belonging to him, at the market price then prevailing, on receiving imaginary payment for them at the rate which obtains when the promise was made. It now becomes his interest that the stock on which he has speculated should fall in price; and he is tempted to effect this end by circulating adverse rumors regarding it; while the purchaser, called a "bull," sees it to his advantage to make it rise. The origin of the term is uncertain.

In astronomy, the word is applied to one or other of two constellations, Ursa Major and Ursa Minor, called respectively the Great Bear and the Little Bear. When the word Bear stands alone, it signifies Ursa Major.

Beard, the hair that grows on the chin, lips, and adjacent parts of the face of men, and sometimes, though rarely, of women. Its growth is the distinctive sign of manhood.

Beard, Daniel Carter, an American artist and author, born in Cincinnati, O., June 21, 1850; first engaged in civil engineering, but later studied art and has since become known as a book and magazine illustrator. He founded and became teacher of the Department of Animal Drawing in the Woman's School of Applied Design, believed to be the first class of this character in the world.

Beard, George Miller, an American physician and hygienic writer, born at Montville, Conn., May 8, 1839; made a specialty of the study of stimulants and narcotics, hypnotism, spiritualism, etc. He died in New York, Jan. 23, 1883.

Beard, Henry, an American painter, born in Ohio, in 1841; son of James Henry Beard, and nephew of William Holbrook Beard; served in the Union army during the Civil War; and, after his removal to New York city, in 1877, was chiefly engaged in illustrating books and periodicals. He died in New York, Nov. 19, 1889.

Beard, James Henry, an American painter, born in Buffalo, N. Y., in 1814. In his childhood his parents removed to Ohio. He became a portrait painter in Cincinnati, and painted the portraits of Henry Clay and other distinguished men. He died in Flushing, N. Y., April 4, 1893.

Beard, William Holbrook, an American painter, born in Painesville, O., April 13, 1825; brother of James H. Beard; was a traveling portrait painter from 1846 till 1851, when he settled in Buffalo, N. Y. He made many studies of decorative architecture. He died in New York city, Feb. 20, 1900.

Beard Moss, a lichen of gray color, forming a shaggy coat on many forest trees.

Beardsley, Aubrey, an English author and illustrator, born in Brighton, in 1874; died in Mentone, France, March 16, 1898.

Beardsley, Samuel, an American jurist, born in Hoosic, N. Y., Feb. 9, 1790. He became Associate Judge of the Supreme Court of New York in 1844, and three years later succeeded Judge Bronson as Chief Justice. On his retirement he devoted himself to the practice of his profession. He died in Utica, N. Y., May 6, 1860.

Bearer Company, a British organization for removing wounded soldiers from the field of battle to the dressing station or temporary hospital.

Bear Lake, Great, an extensive sheet of fresh water in the Northwest Territory of Canada.

Bear River, a river of the United States, 400 miles long; rises in the N. of Utah, and flows N. into Idaho; turns abruptly S., re-enters Utah, and empties into Great Salt Lake.

Bear's Grease, the fat of bears, esteemed as of great efficacy in nourishing and promoting the growth of hair. The unguents sold under this name, however, are in a great measure made of hog's lard or veal fat, or a mixture of both, scented and slightly colored.

Beast Fables, stories in which animals play human parts, a widely spread primitive form of literature, often surviving in more or less developed forms in the more advanced civilizations.

Beat, in music, the beating or pulsation resulting from the joint vibrations of two sounds of the same strength, and all but in unison. Also a short shake or transient grace-note struck immediately before the note it is intended to ornament.

Beatification, in general, the act of rendering supremely blessed, also the state of being rendered supremely blessed. In a special sense an act by which the Pope declares, on evidence which he considers himself to possess, that a certain deceased person is in the enjoyment of supreme felicity in Heaven. It is the first step toward canonization, but it is not canonization itself.

Beaton, David, Cardinal Archbishop of St. Andrew's, Scotland, born in 1494. He became Abbot of Arbroath in 1525, Lord Privy Seal three years later, was sent on several missions to France, received a cardinal's hat in 1538, and in the following year became Primate. On the death of James V., he, by craft and determination, secured to himself the chief power in Church and State, being named Lord High Chancellor of Scotland, and Papal Legate. He opposed an alliance with England, and especially distinguished himself as a persecutor of the Reformers. The trial and burning of George Wishart for heresy took place under his direction, and, a short time afterward Beaton was assassinated at St. Andrew's, in May, 1546. With his death, church tyranny came to an end in Scotland.

Beattie, Francis Robert, a Canadian-American educator, born near Guelph, Ontario, in 1848. In 1888 he became Professor of Apologetics in the Presbyterian Theological Seminary in Columbia, S. C., where he remained till 1893 and then accepted the Chair of Systematic Theology and Apologetics in the Presbyterian Theological Seminary, Louisville, Ky.

Beattie, James, a Scottish poet and miscellaneous writer, born at Laurencekirk, Kincardineshire, Oct. 25, 1735. In 1765 he published a poem, the "Judgment of Paris," and in 1770 his celebrated "Essay on Truth," for which the University of Oxford conferred on him the degree of LL. D.; and George III. honored him, when on a visit to London, with a private conference and a pension. He died in Aberdeen, Aug. 18, 1803.

Beatty, John, an American legislator, born in Bucks county, Pa., Dec. 19, 1749; was educated at Princeton, and took up the study of medicine with Dr. Rush of Philadelphia. He fought with distinction through the Revolutionary War, reaching the rank of Colonel; was Delegate to the Continental Congress in 1783–1785; Speaker of the House; served in the convention which adopted the Federal Constitution; was a member of Congress in 1793–1795; and Secretary of State of New Jersey in 1795–1805. He died in Trenton, N. J., April 30, 1826.

Beatty, John, an American military officer, born near Sandusky, O., Sept. 16, 1828. He fought on the Union side in the Civil War, rising from private to Brigadier-General, and showing intrepid courage at Stone River, 1862–1863. He was a member of Congress in 1868–1874, and Republican Presidential Elector-at-Large in 1884.

Beauchamp, Alphonse de, French historian and publicist, born at Monaco in 1767. Under the Directory he had the surveillance of the press, a position which supplied him with materials for his "History of La Vendée." He died in Paris, June 1, 1832.

Beaufort, Margaret, an English countess, born in 1441; daughter of John, first Duke of Somerset, and

mother of Henry VII., King of England. In the Wars of the Roses, she and her son, Henry, became more or less dangerous to the Yorkists and were for a long time in retirement or exile. Henry was attainted by a Parliament under Richard III., and Margaret's estates forfeited. After the accession of her son as Henry VII. she took no part in public affairs. Her life forms one of the romantic episodes of English history. She was devoutly religious, and founded several religious institutions.

Beauharnais, Eugene de, Viceroy of Italy, and a Prince of the French Empire, son of Alexandre de Beauharnais and Josephine, born in Paris in 1781. After his mother's marriage to Napoleon, he, in 1796, became aide-de-camp to the latter, and served with distinction in the campaigns of Italy and Egypt. Beauharnais was wounded at Acre, contributed to the victory of Marengo, was created Prince of the Empire in 1805, and Viceroy of Italy. In 1806, he married the Princess Amalie Augusta, of Bavaria, and in the same year was adopted by the Emperor as his son, and appointed governor of Lombardy and Venice. He served in the campaign of 1809, defeated the Austrians at Raab, and distinguished himself at Wagram. His military talents were particularly evinced in the retreat from Moscow, and in the following campaigns of 1813–1814. To Beauharnais may be mainly ascribed the victory of Lutzen. After the fall of Napoleon, he retired to Munich, was allowed, by the Treaty of Fontainebleau and the Congress of Vienna, to retain his extensive possessions in Italy, and took his place as Duke of Leuchtenberg among the Bavarian nobles. His children subsequently ranked as members of the imperial family of Russia. He died Feb. 21, 1824.

Beaumarchais, Pierre Augustin, Baron de, born in Paris, Jan. 24, 1732. He was a man of singular versatility of talent, being by turns politician, artist, dramatist, and merchant. At the beginning of the American War of Independence (1777), Beaumarchais entered into a speculation for supplying the colonies with arms, ammunition, etc.; he lost several vessels, three of which were taken in one day by the English cruisers in coming out of the river of Bordeaux, but the greater number arrived in America, and inspired the colonists with renewed hope. He died in Paris, May 18, 1799.

Beaumont, city and capital of Jefferson county, Tex.; on the Neches river and the Gulf & Interstate and other railroads; 30 miles N. of the Gulf of Mexico; is in a region abounding in petroleum and yellow pine and cypress forests; raises considerable rice; ships large quantities of lumber and shingles; and has rice, saw, shingle, stave, and heading mills, foundry and machine shops, and car works. Pop. (1910) 20,640.

Beaumont, Francis, and **Fletcher, John,** two eminent English dramatic writers, contemporaries of Shakespeare, and the most famous of literary partners. The former, son of a Common Pleas judge, was born at Grace-Dieu, in Leicestershire, in 1584. At the age of 16 he published a translation, in verse, of Ovid's fable of "Salmacis and Hermaphroditus," and later he became the friend of Ben Jonson. With Fletcher also he was early on terms of friendship. He married Ursula, daughter of Henry Isley, of Sundridge, in Kent, by whom he left two daughters. He died March 6, 1616, and was buried in Westminster Abbey. JOHN FLETCHER was born at Rye, Sussex, in December, 1579. His father was successively Dean of Peterborough, Bishop of Bristol, Worcester, and London. The "Woman Hater," produced in 1606–1607, is the earliest work known to exist in which he had a hand. It does not appear that he was ever married. He died in London in August, 1625.

Beaumont, William, an American surgeon, born in Lebanon, Conn., in 1785. His experiments on digestion with the Canadian St. Martin, who lived for years after receiving a gunshot wound in the stomach which left an aperture of about two inches in diameter, were of great importance to physiological science. He died in St. Louis, Mo., April 25, 1853.

Beauregard, Pierre Gustave Toutant, an American military officer, born in St. Martin's parish, La.,

May 28, 1818; was graduated at the United States Military Academy and appointed a brevet Second Lieutenant of Artillery in 1838. He distinguished himself in the Mexican War, where he won the brevet of Major. He resigned his commission after the secession of Louisiana in February following; was appointed commander of the Confederate forces at Charleston, S. C., and there opened the hostilities of the Civil War by bombarding Fort Sumter, on April 11. After the evacuation of the fort by Major Anderson, General Beauregard was transferred to Virginia, where he commanded the Confederate forces in the battle of Bull Run, on July 21. In March, 1862, he was ordered to the Army of the Mississippi, under Gen. Albert S. Johnston, and in April following fought the battle of Shiloh, gaining a victory over the National forces the first day, but being defeated by General Grant on the second day. Failing health kept him from active duty till June, 1863, when he took charge of the defense of Charleston against the combined land and naval forces. He remained in command there till April, 1864, when he was ordered to Richmond to strengthen its defenses. On May 16, he attacked General Butler in front of Drury's Bluff, and forced him back to his intrenchments between the James and the Appomattox rivers. He attempted to aid General Joseph E. Johnston in opposing General Sherman, but in April surrendered with the former to the latter. After the war he became president of the New Orleans, Jackson and Mississippi Railroad Company, Adjutant-General of the State, and a manager of the Louisiana State Lottery. In 1866 the chief command of the Rumanian army was tendered him, and in 1869 that of the army of the Khedive of Egypt, both of which he declined. He died in New Orleans, Feb. 20, 1893.

Beaux, Cecilia, an American artist, born in Philadelphia about 1877. She won nearly every prize for which she competed in America, and became a member of the National Academy in 1892, and also of the Société des Beaux-Arts in Paris. Her work is exclusively portraiture.

Beaver, a quadruped of the order Rodentia, or gnawers, the only species of its genus. It is very widely dis-

BEAVER.

tributed, being found in the N. parts of Europe, Asia, and America, nowadays most abundantly in the N. and thinly peopled parts of North America, dwelling in communities on the banks of rivers and lakes.

At one time immense numbers of these animals were killed for their fur, which was largely used in making hats, but in more recent times they have suffered less persecution on this account, their fur now not being held in the same estimation.

The beaver is about two feet in length; its body thick and heavy; the head compressed, and somewhat arched at the front, the upper part rather narrow; the snout much so. The eyes are placed rather high on the head, and the pupils are rounded; the ears are short, elliptical, and almost concealed by the fur. The skin is covered by two sorts of hair, of which one is long, rather stiff, elastic, and of a gray color for two-thirds of its length next the base, and terminated by shining, reddish-brown points; the other is short, thick, tufted, and soft, being of different shades of silver-gray or light lead color. The hair is shortest on the head and feet. The hind legs are longer than the fore, and are completely webbed. The tail is 10 or 11 inches long, and, except the part nearest the body, is covered with hexagonal scales.

Beaver, James, Addams, an American military officer and statesman, born in Millerstown, Pa., Oct. 21, 1837; was graduated at Jefferson College, Canonsburg, Pa., in 1856; and studied law with H. N. McAllister, Bellefonte, Pa., whose partner he afterward became. On the outbreak of the Civil War he was made Lieutenant-Colonel of the 45th Pennsylvania Volunteers. At the battle of Ream's Station, he was severely wounded and lost a leg; and was retired with the rank of Brigadier-General of Volunteers (Dec. 22, 1864). He then resumed the practice of law; became Major-General of the Pennsylvania State Militia; was defeated as a Republican candidate for Governor in 1882; elected in 1887; President of the Board of Trustees of the Pennsylvania State College; Vice-Moderator of the Presbyterian General Assembly in 1888 and 1895; and member of the President's Commission on Investigation of the War Department in 1898.

Beaver Islands, a group of islands situated in the N. part of Lake Michigan and interesting as the scene of a short-lived Mormon colony.

Beaver Rat, a name sometimes given to a small species of beaver, one of the animals called musk rat. It is only the size of a rabbit, and inhabits Canada.

Bebeerine, in chemistry, an uncrystallizable basic substance, extracted from the bark of the greenheart tree of Guiana. In pharmacy, the sulphate of bebeerine is a very valuable medicine, being used like quinine as a tonic and febrifuge.

Bebek, a beautiful bay on the European side of the Bosphorus, with a palace of the Sultan, known as the Humayunabad, and built in 1725.

Bebel, Ferdinand August, a German Socialist, born in Cologne in 1840. He settled in Leipsic in 1860, joined various labor organizations, and became one of the editors of the "Volkstaat" and of the better known "Varwarts." Membership in the North German Reichstag was followed by his election to the German Reichstag, of which he was a member from 1871 to 1881, and which he entered again in 1883. He is the leader of his party in the Reichstag.

Bec, a celebrated abbey of France, in Normandy, near Brionne, now represented only by some ruins. Lanfranc and Anselm were both connected with this abbey.

Beccaria, Cesare Bonesana, Marquis de, an Italian political philosopher, born at Milan, March 15, 1738. He is chiefly known as author of the celebrated "Treatise on Crimes and Punishments," which first appeared in 1764, and advocated great reforms in criminal legislation. He died in Milan, Nov. 28, 1794.

Becerra, Gaspar, a Spanish painter and sculptor, born in 1520. He studied under Michael Angelo at Rome, and is credited with the chief share in the establishment of the fine arts in Spain. He died in 1570.

Beche, Sir Henry, an English geologist, born in 1796. He founded the Geological Survey of Great Britain, which was soon undertaken by the Government, De la Beche being appointed director general. He also founded the Jermyn Street Museum of Economic or Practical Geology, and the School of Mines. He died in 1855.

Bechstein, Johann Matthaus, a German naturalist, born in Gotha, July 11, 1757; wrote a popular natural history of Germany, and various works on forestry, in which subject his labors were highly valuable. He died Feb. 23, 1822.

Bechuanaland, an extensive tract in South Africa, inhabited by the Bechuanas, extending from 28° S. lat. to the Zambesi, and from 20° E. long. to the Transvaal border. The colony was annexed to Cape Colony and the protectorate placed under a British commissioner in 1895.

Beck, James Burnie, an American lawyer, born in Dumfriesshire, Scotland, Feb. 13, 1822; came to the United States when a youth, and settled in Kentucky. He was elected a Democratic Representative to Congress in 1866, 1868, 1870, and 1872, and United States Senator in 1876, 1882, and 1888. He died in Washington, D. C., May 3, 1890.

Becker, George Ferdinand, an American geologist, born in New York, Jan. 5, 1847; graduated at Har-

vard University in 1868; was Instructor of Mining and Metallurgy in the University of California in 1875–1879; attached to the United States Geological Survey since 1879, and Special Agent of the 10th Census, 1879–1883. He was appointed a special agent to examine into the mineral resources of the Philippine Islands in 1898.

Becker, Karl Ferdinand, a German musician, born in Leipsic, July 17, 1804; died in Leipsic, Oct. 26, 1877.

Becker, Karl Ferdinand, a German philologist, born in Liser, April 14, 1775; died in Offenbach, Sept. 5, 1849.

Becker, Karl Friedrich, a German historical writer, born in Berlin, 1777; wrote various popular works on historical topics. He died in Berlin, March 15, 1806.

Becket, Thomas, the most celebrated Roman Catholic prelate in the English annals; born in London in 1117 or 1118. He was the son of Gilbert, a London merchant. His mother is said to have been a Saracen lady, to whose father Gilbert was prisoner in Jerusalem, having become a captive during the Crusades. The lady is said to have fallen in love with the prisoner, to have assisted him in obtaining his liberty , and afterwards to have followed him to London, where she found him with the greatest difficulty. After studying at Oxford and Paris, Becket studied civil law at Bologna, Italy, and returning to England was made Archdeacon of Canterbury and Provost of Beverly.

In 1158 Becket was appointed high-chancellor, and at this time was a complete courtier, conforming in every respect to the humor of the king. Henry II. raised his favorite to the primacy, on the presumption that he would aid him in those political views, in respect to Church power, which all the sovereigns of the Norman line embraced, and which, in fact, caused a continual struggle till its termination by Henry VIII.

Becket was consecrated archbishop in 1162, and immediately affected an austerity of character which formed a very natural prelude to the part which he meant to play. Pope Alexander III. held a general council at Tours in 1163, at which Becket attended and made a formal complaint of the infringements by the laity on the rights and immunities of the Church. On his return to England he began to act in the spirit of this representation, and to prosecute several of the nobility and others holding Church possessions, whom he also proceeded to excommunicate. Finding himself the object of the king's displeasure, he soon after attempted to escape to France: but being intercepted, Henry, in a Parliament at Northampton, charged him with a violation of his allegiance, and all his goods were confiscated.

After much negotiation a sort of reconciliation took place in 1170, on the whole to the advantage of Becket, who, being restored to his see, with all his former privileges, behaved on the occasion with excessive haughtiness. After a triumphal entry into Canterbury the young Prince Henry, crowned during the lifetime of his father, transmitted him an order to restore the suspended and excommunicated prelates, which he refused to do, on the pretence that the Pope alone could grant the favor, though the latter had lodged the instruments of censure in his hands.

The deposed prelates thereupon immediately appealed to Henry in Normandy, who in a state of extreme exasperation exclaimed, "What an unhappy prince am I, who have not about me one man of spirit enough to rid me of a single insolent prelate, the perpetual trouble of my life!" These rash and too significant words induced four of the attendant barons, Reginald Fitz-Urse, William de Tracy, Hugh de Morville, and Richard Brete, to resolve to wipe out the king's reproach. Having laid their plans, they forthwith proceeded to Canterbury, and having formally required the archbishop to restore the suspended prelates, they returned in the evening of the same day (Dec. 29, 1170), and placing soldiers in the courtyard, rushed with their swords drawn into the cathedral, where the archbishop was at vespers, and advancing toward him threatened him with death if he still disobeyed the orders of Henry. Becket, without the least token of

fear, replied that he was ready to die for the rights of the Church; and magnanimously added, "I charge you in the name of the Almighty, not to hurt any other person here, for none of them have been concerned in the late transactions." The confederates then strove to drag him out of the church; but not being able to do so, on account of his resolute deportment, they killed him on the spot with repeated wounds, all which he endured without a groan.

Thus perished Thomas Becket in his 52d year, a martyr to the cause which he espoused, and a man of unquestionable vigor of intellect. He was canonized two years after his death. In the reign of Henry III. his body was taken up and placed in a magnificent shrine erected by Archbishop Stephen Langton; and of the popularity of the pilgrimages to his tomb the "Canterbury Tales" of Chaucer will prove an enduring testimony.

Beckwith, Sir George, an English military officer, born in 1753. His scene of action was largely in America — in the United States, and the West Indies. He fought with the English in the American Revolution in 1776–1782, and was intrusted with important diplomatic commissions in 1782–1791, as there was then no British Minister to the United States. In 1804, he was made governor of St. Vincent, and four years later governor of Barbadoes. As England was then at war with France, he organized an expedition and conquered Martinique, for which he obtained the thanks of the House of Commons. Later (1810) he conquered Guadeloupe, the last possession of the French in that part of the world. When he returned to England, after nine years' service in the West Indies, a set of silver plate was given to him by the legislature of the Barbadoes, and the King conferred upon him armorial distinction. He died in London, March 20, 1823.

Beckwith, James Carroll, an American genre painter, born in Hannibal, Mo., Sept. 23, 1852; was a pupil of Carolus Duran, and became a member of the National Academy in 1894.

Beckwith, John Watrus, an American Episcopal bishop, born in Raleigh, N. C., Feb. 9, 1831; was graduated at Trinity College, Hartford, in 1852; ordained priest in 1855; and was elected Bishop of Georgia, being consecrated in Savannah, April 2, 1868. He was an eloquent and powerful preacher, and published several sermons and addresses. He died in Atlanta, Ga., Nov. 24, 1890.

Becquerel, Antoine Cesar, a French physician, and member of the Institute, born in Chatillon-sur-Loing, March 7, 1788. In early life he served in the French army in Spain as an officer of engineers. He invented a new psychometer in 1866. He died in Paris, Jan. 18, 1878. His son, ALEXANDRE EDMOND (1820–1891) and his grandson ANTOINE HENRI (1852–1908), son of Alexandre, were also eminent physicists, and made valuable researches on the nature and chemical effects of light, and the magnetic properties of many substances. The latter discovered the luminous emanations called "Becquerel Rays."

Bed, in ordinary language, an article of domestic furniture to sleep upon.

In law, a divorce from bed and board, is the divorce of a husband and wife, to the extent of separating them for a time, the wife receiving support, under the name of alimony, during the severance.

In mechanics, a bed is the foundation piece or portion of anything on which the body of it rests, as the bed piece of a steam engine; the lower stone of a grinding mill; or the box, body, or receptacle of a vehicle.

Bede, or **Bæda,** generally known as the Venerable Bede, the greatest figure in ancient English literature, was born near Monkwearmouth, Durham, about 673. Left an orphan at the age of six, he was educated in the Benedictine Abbey at Monkwearmouth, entering the monastery of Jarrow, where he was ordained priest in his 30th year. His industry was enormous. Bede wrote homilies, lives of saints, hymns, epigrams, works on grammar and chronology, and the great "Ecclesiastical History of England," in five books, gleaned from na-

tive chronicles and oral tradition. This was translated from Latin into Anglo-Saxon by King Alfred. The first editions were issued from Strasburg in the 15th century. He died in the monastery of Jarrow, May 26, 735.

Bede, Cuthbert, pseudonym of EDWARD BRADLEY, an English author, born in Kidderminster in 1827; died in Lenton, Dec. 12, 1889.

Bedell, Gregory Thurston, an American clergyman, born in Hudson, N. Y., Aug. 27, 1817; in early life was rector of the Protestant Episcopal Church of the Ascension, New York city. In 1859 he was consecrated Assistant Bishop of Ohio, and in 1873 Bishop of that State. He died in New York city, March 11, 1892.

Bedford, Gunning, an American patriot, born in Philadelphia, Pa., about 1730; was a lieutenant in the French War; entered the Revolutionary army with the rank of Major; was wounded at White Plains; became Muster-Master-General in 1776; was a delegate to the Continental Congress; and was elected Governor of Delaware in 1796. He died in Newcastle, Del., Sept. 30, 1797.

Bedford, Gunning, an American lawyer, born in Philadelphia, Pa., in 1747; was graduated at Princeton in 1771; became a lawyer; acted for a time as aide-de-camp to General Washington; represented Delaware in the Continental Congress in 1783–1786; and became Attorney-General of the State, and United States Judge for the District of Delaware. He died in Wilmington, Del., March 30, 1812.

Bedford, Gunning S., an American physician, born in Baltimore, Md., in 1806; introduced into the United States obstetrical clinics for the gratuitous treatment of poor women. He died in New York city, Sept. 5, 1870.

Bedford Level, an eastern district of England, comprising about 450,000 acres. It was a mere waste of fen and marsh, until the time of Charles I., when, in 1634, a charter was granted to Francis, Earl of Bedford, who undertook to drain the level, on condition of being allowed 95,000 acres of the reclaimed land. He accomplished the undertaking at an enormous expense, and it now forms one of the most fertile and grain-productive districts of the kingdom.

Bedlam, a contraction from Bethlehem, a famous English hospital for lunatics.

Bedloe's Island, an island in New York harbor; ceded to the United States Government, in 1800; the site of Fort Wood, erected in 1841 and mounted with 77 guns; now the location of Bartholdi's colossal statue of "Liberty Enlightening the World."

Bedmar, Alfonso de la Cueva, Marquis of, Cardinal Bishop of Oviedo, a Spanish diplomatist, born in 1572. He was created Cardinal in 1622, was afterward Spanish governor of the Netherlands, made himself detested by the Flemings, and retired to Rome, where he died in 1655.

Bedouins, a Mohammedan people of Arab race, inhabiting chiefly the deserts of Arabia, Syria, Egypt, and North Africa. They lead a nomadic existence in tents, huts, caverns and ruins, associating in families under sheiks or in tribes under emirs.

Bee, the common name given to a large family of hymenopterous or membranous-winged insects, of which the most important is the common hive or honey bee (apis mellifica). It belongs to the warmer parts of the Eastern Hemisphere, but is now naturalized in the Western. A hive commonly consists of one mother or queen, from 600 to 800 males or drones, and

DRONE BEE.

from 15,000 to 20,000 working bees, formerly termed neuters, but now known to be imperfectly developed females. The last mentioned, the smallest, have twelve joints to their antennæ, and six abdominal rings, and are provided with a sting; there is, on the

outside of the hind legs, a smooth, hollow, edged with hairs, called the basket, in which the kneaded pollen or bee bread, the food of the larvæ, is

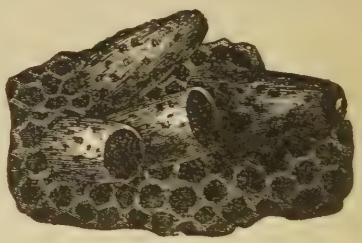
QUEEN BEE.

stored for transit. The queen has the same characteristics, but is of larger size, especially in the abdomen; she has also a sting. The males, or drones, differ from both the preceding by having 13 joints to the antennæ; a rounded head with larger eyes, elongated and united at the summit; and no stings. The queen has two large ovaries, consisting of a great number of small cavities, each containing 16 or 17 eggs. The inferior half-circles, except the first and last, on the abdomen of working bees, have each on their inner surface two cavities, where the wax secreted by the bee from its saccharine food, is formed in layers, and comes out from between the abdominal rings. Respiration takes place

WORKER BEE.

by means of air tubes which branch out to all parts of the body, the bee being exceedingly sensitive to an impure atmosphere. Of the organs of sense the most important are the antennæ, deprivation of these resulting in a species of derangement. The majority of entomologists regard their function as in the first place auditory, but they are exceedingly sensitive to tactual impressions, and are apparently the principal means of mutual communication. Bees undergo perfect metamorphosis, the young appearing first as larvæ, then changing to pupæ, from which the imagos or perfect insects spring.

The humblebees, or bumblebees, of which over 60 species are found in North America, belong to the genus bombus, which is almost world wide in its distribution. Of these species solitary females which have survived the winter, commence constructing small nests when the weather begins to be warm enough; some of them going deep into the earth in dry banks, others preferring heaps of stone or gravel, and others choosing always some bed of dry moss. In the nest the bee collects a mass of pollen and in this lays



ROYAL CELLS.

some eggs. The cells in these nests are not the work of the old bee, but are formed by the young insects similarly to the cocoons of silk worms; and when the perfect insect is released from them by the old bee, which gnaws off their tops, they are employed as honey-cups. The humblebees, however, do not store honey for the winter, those which survive till the cold weather leaving the nest and penetrating the earth, or taking up some other sheltered position, and remaining there till the spring.

Beech, a tree. The wood is brittle and not very lasting, yet it is used by turners, joiners, and millwrights. The fine thin bark is employed for making baskets and band-boxes.

Beecher, Catherine Esther, an American author and educator, daughter of Lyman, and sister of Henry Ward Beecher, born in Easthampton, L. I., Sept. 6, 1800. The latter part of her life was devoted to

training teachers and supplying them to needy fields, especially in the Western and Southern States. She wrote numerous works on education and on the woman question. She died in Elmira, N. Y., May 12, 1878.

Beecher, Henry Ward, an American clergyman, born in Litchfield, Conn., June 24, 1813. He was the son of Lyman Beecher; graduated from Amherst in 1834; studied in Lane Theological Seminary, near Cincinnati, Ohio; and began clerical duty as pastor of a church in Lawrenceburg, Ind., removing to Indianapolis in 1839. From 1847 until his death he was Pastor of Plymouth Congregational Church in Brooklyn. He was one of the founders of the "Independent" and of the "Christian Union" (now the "Outlook"). He was also a prominent anti-slavery orator, as well as a famous lecturer. He died in Brooklyn, N. Y., March 8, 1887.

Beecher, Lyman, an American clergyman, born in New Haven, Conn., Oct. 2, 1775. His ancestors were Puritans. He graduated from Yale in 1796, and became pastor of the Presbyterian Church in East Hampton, L. I.; then of a Congregational church in Litchfield, Conn., in 1810; and then of the Hanover Street Congregational Church in Boston, Mass. In 1832 he became President of Lane Theological Seminary, near Cincinnati, Ohio. His influence throughout the country was very great, especially on the questions of temperance and of slavery. His "Six Sermons on Intemperance" had a great effect, and have been frequently republished and translated into many languages. His sermon on the death of Alexander Hamilton, in 1804, with his "Remedy for Dueling" (1809), did much toward breaking up the practice of dueling in the United States. He died in Brooklyn, N. Y., June 10, 1863.

Beecher, Thomas Kinnicutt, an American clergyman, son of Lyman, and brother of Henry Ward Beecher, born in Litchfield, Conn., Feb. 10, 1824. He became pastor in Brooklyn in 1852, and in Elmira, N. Y., in 1854. He was a very successful lecturer and an effective writer on current topics. He died in Elmira, N. Y., March 14, 1900.

Beechey, Frederick William, an English naval officer, born in London, Feb. 17, 1796. He died in London, Nov. 29, 1856. Beechey Island in the Arctic Archipelago was named after him.

Bee Eater, in the singular the English name of a genus of birds, more fully called the yellow throated bee eater of Africa.

Beelzebub. (1) The fly-god, a god worshipped in the Philistine town of Ekron. (II. Kings i: 3) (2) An evil spirit. (3) Any person of fiendish cruelty, who is nicknamed by his adversaries, or, in contempt of moral sentiment, appropriates the appellation to himself and cherishes it as if it were an honorable title.

Beer, an alcoholic drink made from the malted grains of barley, boiled with hops and then fermented with yeast. The manufacture of ale or beer is of very high antiquity. Herodotus ascribes the invention of brewing to Isis, and it was certainly practised in Egypt. Xenophon mentions it as being used in Armenia, and the Gauls were early acquainted with it. Pliny mentions an intoxicating liquor made of corn and water as common to all the nations of the west of Europe, and in England ale-booths were regulated by law as early as the 8th century. A rude process of brewing is carried on by many uncivilized races; thus chica or maize beer is made by the South American Indians, millet beer by various African tribes, etc. The beers common in the United States are: lager beer—that is, store beer, the name being given to it because it is usually kept for four to six months before being used. In brewing it the fermentation is made to go on rather slowly and at a low temperature; Schenk beer, brewed in winter for immediate use; bock beer, brewed extra strong and served during the spring months. The alcohol in beer averages about 4 per cent.

Beerbohm-Tree, Herbert, an English actor, born in London, in 1853. In 1897 he opened his new theatre, Her Majesty's, in the Haymarket.

Beers, Henry Augustin, an American author, born in Buffalo, N.

Y., July 2, 1847. He graduated from Yale in 1859; became tutor there in 1871, and Professor of English Literature in 1880.

Beersheba (now Bir-es-Seba, "the well of the oath"), the place where Abraham made a covenant with Abimelech, and in common speech, representative of the southernmost limit of Palestine, near which it is situated. It is now a mere heap of ruins near two large and five smaller wells, though it was a place of some importance down to the period of the crusades.

Beet, a genus of plants distinguished by its fruit being inclosed in a tough woody or spongy five-lobed enlarged calyx. The garden beet, or beet of general cultivation, is of biennial duration, and has a tender fleshy root. Red beet is principally used at table, in salad, boiled, and cut into slices, as a pickle, and sometimes stewed with onions; but if eaten in great quantity it is said to be injurious to the stomach. The beet may be taken out of the ground for use about the end of August, but it does not attain its full size and perfection till the month of October. When good it is large and of a deep red color, and when boiled is tender, sweet, and palatable.

Beethoven, Ludwig von, one of the greatest musical composers of modern times, was born in Bonn, in 1770. His genius was very early displayed, and his musical education was begun by his father, and continued by the court organist, who introduced him to the works of Sebastian Bach and Handel. He soon attempted composition, and showed wonderful facility in improvisation. About 1790, he settled at Vienna, where Mozart quickly recognized his marvellous powers. When about 40 years of age, he was attacked with deafness, which became total, and lasted through life. He became, gradually, the victim of morbid irritability and hopeless melancholy, ending in confirmed hypochondria, and, finally, dropsy and delirium. He continued to compose, however, long after he had ceased to hear himself play, and received homage and honors from all parts of Europe. He died unmarried, in Vienna, March 26, 1827. Vast power, intense passion, and infinite tenderness are manifested in all his compositions, which abound no less in sweetest melodies than in grand and complicated harmonies. A statue of Beethoven, by Hulmel, was erected at Bonn, in 1845.

Beet Sugar, the sugar obtained from the beet; similar to cane sugar, but inferior in sweetening power. Beet root contains an average of about 10 per cent. of saccharine matter; sugar cane, 18 per cent. Of the varieties, the white Selvig beet is richest.

Of the 985,568,640 pounds of sugar produced in the United States in 1901, about one-third was from beets and two-thirds from cane, and of the 599,774,613 pounds of beet sugar imported, 484,344,004 pounds came unrefined. The annual statement of the American Beet Sugar Company furnishes ample proof of the advance which has been made by the beet sugar industry in the United States. In 1880 the domestic production of beet sugar was 357 tons, and in 1901 it had increased to 124,859 tons, a gain in 20 years of nearly 350 per cent.

The quantity of beet sugar produced in the United States in the year ending June 30, 1910, was 1,025,000,000 pounds, against 73,000,000 pounds in 1899, an increase of 952,000,000 pounds as compared with an increase of 181,000,000 pounds of cane sugar in the same period. Of the total beet sugar production, Hawaii furnished 1,111,000,000 pounds; Porto Rico, 569,000,000; and the Philippines, 176,000,000. In 1905 there were 51 beet sugar factories in the United States which had a combined product valued at $24,393,794; and in 1909 there were 1,273 beet sugar factories in Europe, which used 40,067,000 tons of beets, and produced 5,740,000 tons of sugar, and, excluding the United States, the world's production was 6,061,000 tons.

The beet sugar industry was started by Marggraf, in Germany, in 1747, who was the first to discover that sugar could be extracted from the common beet. The first factory for its manufacture was erected by Archard, at Kunern, in Silesia, in 1802. Napoleon issued an imperial decree in the early part of his reign establishing this industry in France, and in

1812 he ordered the building of 10 factories and placed Delessert in charge of their construction. In 1830 attempts were made in the United States to introduce the cultivation of the sugar beet. It was not, however, till 1876 that the first successful beet sugar factory was built, being erected in Alvarado, Cal.

Beetle, a name often used as synonymous with the term Coleoptera, but restricted by others to include all those insects that have their wings protected by hard cases or sheaths, called elytra. Beetles vary in size from a mere point to the bulk of a man's fist, the largest, the elephant beetle of S. America, being 4 inches long. The so called 'black beetles' are not properly beetles at all, but cockroaches, and of the order Orthoptera.

Beggars, a term first applied to the 300 Protestant deputies under Henri de Brederode and Louis de Nassau, who protested against the establishment of the Inquisition in Holland, in April, 1566. The Dutch patriots assumed this designation when they rebelled against Spain in 1572.

Beghards, Beguards, or **Begards,** various spellings of a name said by some to be derived from their begging favor from God in prayer, and to the fact that they were religious mendicants.

Begonia, an extensive genus of succulent-stemmed herbaceous plants, order Begoniaceæ, with fleshy oblique leaves of various colors, and showy unisexual flowers, the whole perianth colored. They readily hybridize, and many fine varieties have been raised from the tuberous-rooted kinds. From the shape of their leaves they have been called elephant's ear. Almost all the plants of the order are tropical.

Beguines, Beguins, or **Beguinæ.** Associations of praying women which arose in the Netherlands in the 13th century, the first being formed at Nivelles, in Brabant, in A. D. 1226, and spread rapidly in the adjoining countries. They used to weave cloth, live together under a directress, and leave on being married, or indeed whenever they pleased. They still exist in some of the Belgian towns, notably at Ghent, where they are renowned as makers of lace, though under different rules from those formerly observed.

Begum (a feminine form corresponding to beg, or bey), an Indian title of honor equivalent to princess, conferred on the mothers, sisters, or wives of native rulers. The Begum of Oudh is well known in Indian history.

Behaim, or **Behem, Martin,** a German mathematician and astronomer, born in Nuremberg about 1430. He colonized the Island of Fayal, where he remained for several years, and assisted in the discovery of the other Azores; was afterward knighted, and returned to his native country, where, in 1492, he constructed a terrestrial globe, still preserved. He died in Lisbon in 1506.

Behemoth, the animal described in Job xi: 15–24. It is probably the hippopotamus, which, in the time of Job, seems to have been found in the Nile below the cataracts, though now it is said to occur only above them. A second opinion entertained is that Job's behemoth was the elephant; while a few scholars make the less probable conjecture that it was the rhinoceros.

BEGONIA REX.

Behistun, or **Bisutun,** a mountain near a village of the same name in Persian Kurdistan, celebrated for the sculptures and cuneiform inscriptions cut upon one of its sides — a rock rising almost perpendicularly to the height of 1,700 feet. These works, which stand about 300 feet from the ground, were executed by the orders

of Darius I., King of Persia, and set forth his genealogy and victories. To receive the inscriptions, the rock was carefully polished and coated with a hard, siliceous varnish. Their probable date is about 515 B. C. They were first copied and deciphered by Rawlinson.

Behm, Ernst, a German geographer, born in Gotha, Jan. 4, 1830; died in Gotha, March 15, 1884.

Behn, Aphra, or **Afra,** or **Aphara,** an English author; born in Wye, in 1640. Early in life she spent several years in the West Indies, where she met the Indians, who became the model of her famous "Oroonoko." She was the first woman writer in England who earned a livelihood by her pen. She died in London, April 16, 1689.

Behring, another spelling of BERING.

Beissel, Johann Conrad, a German mystic, born in Eberbach, in 1690. He settled in Pennsylvania in 1720, and established the German Seventh-Day Baptists, at Ephrata, in 1728. He died in Ephrata, in 1768.

Beit, Alfred, So. African financier, b. Hamburg, 1853, d. London, July 16, 1906. He was associated with Cecil Rhodes (q. v.) and left an immense fortune in benefactions.

Beitzke, Heinrich Ludwig, a German historian, born in Muttrin, Feb. 15, 1798; died in Berlin, May 10, 1867.

Bejapoor, a ruined city of Hindustan, in the Bombay Presidency, one of the largest cities in India until its capture by Aurungzebe in 1686. The ruins are chiefly Mohammedan, the principal being Mahomet Shah's tomb, with a dome visible for 14 miles. Pop. 13,245.

Beke, Charles Tilstone, an English geographer, explorer, and author, born in London, Oct. 10, 1800. In 1834 he published "Origines Biblicæ; or, Researches in Primeval History," one of the first attempts to reconstruct historv on the principles of the young science of geology. He explored Abyssinia, Godjam and the countries lying to the W. and S., previously almost entirely unknown to Europeans. He died in London, July 31, 1874.

Bekker, Immanuel, a German scholar distinguished by his recensions of the texts of Greek classics, born in Berlin, May 21, 1785; died in Berlin, June 7, 1871.

Bel, in Accadian, Assyrian and Babylonian mythology, a god; mentioned in Scripture, in Is. xlvi: 1; Jer. l: 2, li: 44; in the Septuagint, in Baruch vi: 40, and in the apocryphal additions to the Book of Daniel, as well as by classical authors. It has been discovered that, prior to 1600 B. C., the highly interesting Turanian people called Accadians, the inventors of the cuneiform writing, who wielded extensive authority in Western Asia before the Semitic Assyrians and Babylonians had come into notice, worshipped as their first triad of gods, Anu, ruling over the heaven; Elu, Belu, or Bel, over the earth; and Ea, over the sea. Bel's three children, or three of his children, were Shamas, the sun-god; Sin, the moon-god; and Ishtar, the Accadian Venus. Sayce shows that some first born children were vicariously offered in sacrifice by fire to the sun-god. From the Accadians, human sacrifice passed to various Semitic tribes and nations. Bel's name Elu identifies him with the Phœnician El, who, in a time of trouble, offered his first born son, "the beloved," on a high place, by fire. It is not settled whether or not Bel was the same also as the Phœnician Baal. To the wrath of Bel the deluge was attributed. In Scripture times he was known exclusively as a Babylonian divinity, being distinguished from both Nebo and Merodach. In the later Babylonian Empire, however, Merodach came to be generally identified with Bel, though sometimes distinguished from him, being called "the lesser Bel."

Bel and the Dragon, one of the books of the Apocrypha, or, more precisely, certain apocryphal chapters added to the canonical Book of Daniel. The Jews consider them as no part of their Scriptures. They were penned probably by an Alexandrian Jew, the language used being not Hebrew, nor Aramæan, but Greek. The Church of Rome accepts Bel and the Dragon as part of the Holy Scripture; most, if not all, Protestant churches reject it. The story of Bel and the Dragon tells

how Daniel enlightened Cyrus, who is represented as having been a devout worshiper of Bel, by proving that the immense supplies of food laid before the idol were really consumed, not by it or by the inhabiting divinity, but by the priests and their families. On Cyrus urging that the dragon, also worshipped, was at least a living God, Daniel poisoned it, for which he was thrown into a lions' den, where the Prophet Habakkuk fed him. Ultimately he was released, and his persecutors put to death.

Belcher, Sir Edward, an English naval officer, born in 1799. Knighted in 1843, and for five years employed on surveying service in the East Indies, he was, in 1852 appointed to the command of the unfortunate expedition sent out by the government to search for Sir John Franklin. He died March 18, 1877. Belcher Channel, an inlet of Jones' Sound (Baffins Bay), is named from him, its discoverer.

Belem, a town in Portugal, W. of Lisbon; noted for a monastery founded in 1500, to commemorate the voyage of Vasco da Gama, and now used as an orphan asylum.

Belemnite, a genus of fossil chambered shells.

Belfast, a seaport and municipal and parliamentary borough of Ireland (in 1888 declared a city), principal town of Ulster, and county town of Antrim, built on low, alluvial land on the left bank of the Lagan, at the head of Belfast Lough. Previous to about 1830 the cotton manufacture was the leading industry of Belfast, but nearly all the mills have been converted to flax spinning. The iron shipbuilding trade is also of importance, and there are breweries, distilleries, flour mills, oil mills, foundries, print works, tan yards, chemical works, rope works, etc. The commerce is large. An extensive direct trade is carried on with British North America, the Mediterranean, France, Belgium, Holland, and the Baltic, besides ports of the British Islands. Belfast is comparatively a modern town. It returns four members to Parliament. Pop. (1901) 348,876.

Belgium, a kingdom of Europe, bounded N. by Holland, N. W. by the North Sea, W. and S. by France, and E. by the duchy of Luxemburg, Rhenish Prussia, and Dutch Limburg; greatest length, 165 miles; greatest breadth, 120 miles; area, about 11,400 square miles. For administrative purposes it is divided into nine provinces — Antwerp, South Brabant, East Flanders, West Flanders, Hainaut, Liege, Limburg, Luxemburg, and Namur. Pop. (1902) 6,896,079.

The greater part of the country is well adapted for agricultural operations, and the inhabitants have so happily availed themselves of their natural advantages that they early began, and in some respects still deserve, to be regarded as the model farmers of Europe.

The mineral riches of Belgium are great, and, after agriculture, form the most important of her national interests. They are almost entirely confined to the four provinces of Hainaut, Liege, Namur, and Luxemburg, and consist of lead, manganese, calamine or zinc, iron, and coal. All these minerals, however, are insignificant compared with those of iron and coal. The coal field has an area of above 500 square miles. The export is about 5,000,000 tons, forming one of the largest and most valuable of all the Belgian exports, and employing about 125,000 persons. Nearly the whole of this coal is taken by France.

The industrial products of Belgium are very numerous, and the superiority of many of them to those of most other countries is confessed. The fine linens of Flanders, and lace of South Brabant are of European reputation. Scarcely less celebrated are the carpets and porcelain of Tournay, the cloth of Verviers, the extensive foundries, machine works, and other iron and steel establishments of Liege, Seraing, and other places. The cotton and woolen manufactures, confined chiefly to Flanders and the province of Antwerp, have advanced greatly. Other manufactures include silks, beet sugar, beer. There were 17 pig iron works in operation in 1899; 46 iron manufactories; 15 steel works; 123 sugar factories; and 25 refineries; and 240 distilleries.

The railways have a length of about 2,900 miles, three-fourths belonging to the State. The value of the general

commerce in 1900 was: Imports, 3,594,425,067 francs, and exports, 3,297,509,775 francs; imports for home consumption, 2,215,700,000 francs; exports of Belgian produce and manufactures, 1,922,900,000 francs; transit trade, 1,374,600,000 francs.

The Belgian population is the densest in Europe, and is composed of two distinct races — Flemish, who are of German, and Walloons, who are of French extraction.

Almost the entire population belong to the Roman Catholic Church. Protestantism is fully tolerated, and even salaried by the State, but cannot count above a mere fraction (some 10,000) of the population among its adherents. Education is in a very unsatisfactory state. At the census of 1890 nearly 27 per cent. of the population above 15 years of age could neither read nor write. French is the official language of Belgium and in general use among the educated classes, and there can scarcely be said to be a national literature.

The Belgian constitution combines monarchical with a strong infusion of the democratic principle. The executive power is vested in a hereditary king; the legislative in the king and two chambers — the Senate and the Chamber of Representatives — the former elected for eight years, the latter for four, but one-half of the former renewable every four years, and one-half of the latter every two years. The senators are elected partly directly, partly indirectly (by the provincial councils), and must be 40 years of age. Their numbers depend on population. The deputies or representatives are elected directly, one for every 40,000 inhabitants at most. The army is raised by conscription, to which every able man who has completed his 19th year is liable, and also by voluntary enlistment. The peace strength of the army in 1899 amounted to 51,270 officers and men; in time of war the total strength is about 140,000 men. Besides this standing army there is a garde civique, numbering about 43,000 men in time of peace, in addition to which there are 90,000 non-active men belonging to this force. The navy is confined to a few steamers and a small flotilla of gunboats.

After being for centuries under Spanish, Austrian and French domination, Belgium was united by the Congress of Vienna to Holland, under the title of the kingdom of the Netherlands. A most injudicious measure of the Dutch government, an attempt to assimilate the language of the provinces by prohibiting the use of French in the courts of justice, excited an opposition, which, encouraged by the success of the French revolution of 1830, broke out into revolt. The electoral system, moreover, gave the preponderance to the N. provinces, though inferior in population, and the interests of the provinces were diametrically opposed in matters of taxation. Belgium was agricultural and manufacturing, Holland commercial; the one wished to tax imports and exports, the other property and industry. In the chambers three different languages were spoken, Dutch, German, and French; and the members frequently did not understand each other. Nothing but the most skillful government could have overcome these difficulties, and no statesman appeared fitted to grapple with them. The revolutionary movement became general in the S., and the Dutch troops, at first successful before Brussels, were finally repulsed, and compelled by the arrival of fresh bands of insurgents from all quarters to retire. The Flemings saluted the volunteers of Liege, Mons, and Tournay by the ancient title of Belgians, and this name, which properly distinguished only a section of the people of the S. provinces, became henceforth recognized as the patriotic designation of the whole.

A convention of the great powers assembled in London to determine on the affairs of the Netherlands and stop the effusion of blood. It favored the separation of the provinces, and drew up a treaty to regulate it. In the meantime the National Congress of Belgium offered the crown to the Duke of Nemours, second son of Louis Philippe, and, on his declining it, they offered it, on the recommendation of England, to Leopold, Prince of Saxe-Coburg, who acceded to it under the title of Leopold I., on July 21, 1831. In November of the same year the five powers guaranteed the crown to him by the treaty of London.

During the reign of Leopold, a prosperous period of 34 years, Belgium became a united and patriotic community. Arts and commerce flourished, and a place was taken in the family of nations upon which the Belgian people could look with complacency. On the outbreak of the French Revolution of 1848 Leopold declared his willingness to resign the crown if it was contrary to the wishes of his subjects that he should retain it. This declaration disarmed the Republican party, and confirmed the stability of the monarchy at a critical moment. During his reign Belgium concluded various treaties of commerce, with Great Britain in 1851 and 1862, and with France in 1861. Leopold II. succeeded his father in 1865. In recent years the chief feature of Belgian politics has been a keen struggle between the clerical and the liberal party. At the elections in June, 1878, the liberals gained a majority, which they lost in 1884, and failed to regain in 1890, but, after a revision of the constitution, they were returned by a large majority in 1894. In 1908 Belgium annexed the KONGO FREE STATE (q. v.). King Leopold II. died Dec. 17, 1909, and was succeeded by his nephew, as Albert I.

Belgrade, a city and capital of Servia, on the right bank of the Danube in the angle formed by the junction of the Save with that river, consists of the citadel or upper town, on a rock 100 feet high; and the lower town, which partly surrounds it. Of late years many modern improvements have been introduced and many fine edifices have been built. It manufactures carpets, silks, etc. Since the treaty of Berlin (July, 1878) it has been the capital of an independent State. Pop. (Dec. 31, 1900) 69,097.

Belisarius, the great general of the Roman Emperor Justinian, was a native of Illyria. He commanded an expedition against the King of Persia about 530; suppressed an insurrection at Constantinople; conquered Gelimer, King of the Vandals, and put an end to their dominion in Africa; was recalled and honored with a triumph. In 535, Belisarius was sent to Italy to carry on war with the Goths, and took Rome in 537. He was there unsuccessfully besieged by Vitiges, whom he soon after besieged in turn, and captured at Ravenna, but was recalled, through jealousy, before he had completed the conquest of Italy. Belisarius recovered Rome from Totilus in 547, and was recalled the next year. He was afterward sent against the Huns. He was charged, in 563, with conspiracy against Justinian, but was acquitted. That he was deprived of sight, and reduced to beggary, appears to be a fable of late invention. Died in 565.

Belize, or **British Honduras,** a British colony washed on the E. by the Bay of Honduras, in the Caribbean Sea, and elsewhere surrounded by Guatemala and Mexico. It forms the S. E. part of the peninsula of Yucatan, and measuring 180 by 60 miles, has an area of 7,562 square miles. Since 1862 Belize has ranked as a British colony, with a lieutenant-governor, whose rank was raised, in 1884, to that of governor. Pop. (1901) 36,998. Belize, the capital, is a depot for foreign goods for Central America, and has a population of about 6,600.

Belknap, George Eugene, an American naval officer, born in Newport, N. H., Jan. 22, 1832; was appointed midshipman in the navy in 1852, rose to Rear-Admiral in 1889; and was retired in 1894. He took part in the capture of the Barrier Forts on the Canton river, China, in 1856; and in the Civil War. In 1873, while engaged in deep sea sounding in the North Pacific Ocean, he made discoveries concerning the bed of the ocean that found high favor among scientists. He was appointed Superintendent of the United States Naval Observatory in 1885. He died in 1903.

Belknap, William Worth, an American military officer, born in Newburg, N. Y., Sept. 22, 1829; graduated at Princeton, and read law in Keokuk, Ia., where he was elected to the Legislature in 1857. In 1861 he entered the Union army as Major of the 15th Iowa Volunteers and was engaged at Shiloh, Corinth, and Vicksburg; but became most prominent in Sherman's Atlanta campaign. He was promoted to Brigadier-General, July 30, 1864, and Major-General, March 13, 1865. He was collector of internal revenue in Iowa from 1865 to Oct. 13, 1869, when he was ap-

pointed Secretary of War, which office he occupied till March 7, 1876. He resigned in consequence of accusations of official corruption. Subsequently he was tried and acquitted. He died in Washington, D. C., Oct. 12, 1890.

Bell, a hollow, sounding instrument of metal. The metal from which bells are usually made (by founding), is an alloy, called bell-metal, commonly composed of 80 parts of copper and 20 of tin.

Bells, as the term is used on shipboard, are the strokes of the ship's bell that proclaim the hours. Eight bells, the highest number, are rung at noon and every fourth hour afterwards, i. e., at 4, 8, 12 o'clock, and so on. The intermediary periods are indicated thus: 12:30, 1 bell; 1 o'clock, 2 bells; 1:30, 3 bells, etc., until the eight bells announce 4 o'clock, when the series recommences 4:30, 1 bell; 5 o'clock, 2 bells, etc. The even numbers of strikes thus always announce hours, the odd numbers half hours.

Bell, Alexander Graham, inventor of the telephone, was born in Edinburgh, March 3, 1847; son of Alexander Melville Bell. He was educated at Edinburgh and in Germany, and settled in Canada in 1870. In 1872 he came to the United States and introduced for the education of deaf mutes the system of visible speech contrived by his father. He became Professor of Vocal Physiology in Boston University, and at the Philadelphia Exhibition, in 1876, exhibited his telephone, designed and partly constructed some years before. He was also the inventor of the photophone in 1880, of the graphophone in 1887, and of kindred instruments.

Bell, Alexander Melville, a Scotch elocutionist, born at Edinburgh in 1819. He is inventor of the system of visible speech, in which all the possible articulations of the human voice have corresponding characters designed to represent the respective positions of the vocal organs. This system has been successfully employed in teaching the deaf and dumb to speak. Besides writing on this subject he has written on elocution, stenography, etc. Died Aug. 7, 1905.

Bell, Andrew James, a Canadian educator, born in Ottawa, May 12, 1856; educated at the University of Toronto, and at Breslau University; became Professor of Latin and Literature in Victoria University, in 1889. He is an active member of the Canadian Institute, and has contributed some important papers to its "Transactions."

Bell, Benjamin Taylor A., a Scotch-Canadian mining expert, born in Edinburgh, July 2, 1863; was educated in Edinburgh; went to Canada in 1882. In 1890 he organized the General Mining Association of the Province, and in 1892 he was instrumental in uniting the coal, gold, and other mineral interests of Nova Scotia into a like organization.

Bell, Henry, a Scotch engineer, born in Linlithgowshire in 1767. In 1798 he turned his attention especially to the steamboat, the practicability of steam navigation having been already demonstrated. In 1812 the "Comet," a small 30-ton vessel built at Glasgow under Bell's directions, and driven by a three horse-power engine made by himself, commenced to ply between Glasgow and Greenock, and continued to run till she was wrecked in 1820. This was the beginning of steam navigation in Europe. Bell is also credited with the invention of the "discharging machine" used by calico printers. He died in Helensburgh, in 1830. A monument has been erected to his memory at Dunglass Point on the Clyde.

Bell, Henry Haywood, an American naval officer, born in North Carolina, about 1808; was appointed a midshipman from that State in 1823. Shortly after the outbreak of the Civil War, he became Fleet Captain of the Western Gulf Squadron. He commanded one of the three divisions of the fleet which captured New Orleans, and was sent to raise the United States flag over the custom house and the city hall. In 1866 he was promoted to Rear-Admiral; and, in 1867, retired. He was drowned at the mouth of the Osaka river, Japan, Jan. 11, 1868.

Bell, Isaac, an American philanthropist, born in New York city, Aug.

4, 1814; died in New York city, Sept. 30, 1897.

Bell, James Franklin, an American military officer, born in Kentucky, was graduated at the United States Military Academy; commissioned Second Lieutenant in the 9th Cavalry in 1879; was promoted to First Lieutenant in the 7th Cavalry, Dec. 29, 1890; and Captain, March 2, 1899. On July 5, 1899, he was commissioned Colonel of the 36th United States Infantry, and, in an action with the Filipino insurgents near Porac, Luzon, Sept. 9, following, he so signally distinguished himself that President McKinley directed that a Congressional medal of honor be presented to him. Colonel Bell had much to do with the establishment of the United States War School for Cavalry and Light Artillery at Fort Riley, Kan., and is considered an exceptionally skillful cavalry officer.

Bell, John, an American statesman, born near Nashville, Tenn., Feb. 18, 1797; was admitted to the bar in 1816; member of Congress from 1827 to 1841; Speaker in 1834, and Secretary of War in 1841. During this period he became from an ardent free trader, a protectionist and supporter of the Whigs, and favored the reception of petitions for the abolition of slavery in the District of Columbia; afterward (1858) he vigorously opposed the admission of Kansas as a slave State. He sat in the United States Senate from 1847 to 1859, and, in 1860, was nominated for the Presidency by the "Constitutional Union" Party, but received only 39 electoral votes, cast by the States of Tennessee, Kentucky and Virginia. He afterward took no active share in politics, and died at Cumberland Ironworks, Sept. 10, 1869.

Bell, Liberty, a famous bell which was rung when the Continental Congress declared the independence of the United States in 1776. The order for founding it was given in 1751. The State House of Pennsylvania, in Philadelphia, work on which had been suspended for a number of years, was then approaching completion. The lower floors were already occupied by the Supreme Court in the Chamber, while in the other assembled the Freemen of the Province of Pennsylvania, then consisting of one body. A committee was appointed by the Freemen, with Peter Norris as chairman, and empowered to have a new bell cast for the building. The commission for the bell was, in the same year, awarded to Robert Charles, of London, the specification being that the bell should weigh 2,000 pounds and cost £100 sterling. It was to be made by the best workmen, to be examined carefully before being shipped, and to contain, in well shaped letters around it, the inscription: "By order of the Province of Pennsylvania for the State House in the City of Philadelphia, 1752." An order was given to place underneath this the prophetic words from Leviticus xxv: 10: "Proclaim liberty throughout the land and to all the inhabitants thereof." The reason for the selection of this text has been a subject of much conjecture, but the true reason is apparent when the full text is read. It is as follows: "And ye shall hallow the 50th year and proclaim liberty throughout the land and to all the inhabitants thereof." In selecting the text the Quakers had in memory the arrival of William Penn and their forefathers more than half a century before. In August, 1752, the bell arrived, but though in apparent good order, it was cracked by a stroke of the clapper while being tested. It was recast successfully, and placed in position in June, 1753. After the Declaration of Independence it rang out the memorable message of "Liberty throughout the land and to all the inhabitants thereof." For 50 years the bell continued to be rung on every festival and anniversary, until it eventually cracked. An ineffectual attempt was made to cause it to continue serviceable by enlarging the cause of its dissonance and chipping the edges. It was removed from its position in the tower to a lower story, and only used on occasions of public sorrow. Subsequently, it was placed on the original timbers in the vestibule of the State House, and, in 1873, it was suspended in a prominent position immediately beneath where a larger bell, presented to the city in 1866, now proclaims the passing hours. In 1893 it was taken to Chi-

cago and placed on exhibition at the World's Columbian Exposition.

Bell, Lilian, an American novelist, born in Kentucky in 1867.

Bell, Robert, a Canadian geologist, born in the township of Toronto, Ont., June 3, 1841; author of about 130 reports and papers, a list of which is found in the "Biblio of the Royal Society."

Bell, Samuel Dana, an American jurist, born in Francestown, N. H., Oct. 9, 1798; died in Winchester, N. H., July 31, 1868.

Belladonna, a European plant, atropa belladonna, or deadly nightshade, natural order solanaceæ. It is native in Great Britain. All parts of the plant are poisonous, and the incautious eating of the berries has often produced death. The inspissated juice is commonly known by the name of extract of belladonna. It is narcotic and poisonous, but is of great value in medicine, especially in nervous ailments. It has the property of causing the pupil of the eye to dilate. The fruit of the plant is a dark, brownish-black shining berry. The name signifies beautiful lady, and is said to have been given from the use of the plant as a cosmetic.

Bellamy, Edward, an American writer, born in Chicopee Falls, Mass., March 29, 1850. He was educated in Germany; admitted to the bar; was on the staff of the "Evening Post" of New York in 1871–1872; and on his return from the Sandwich Islands in 1877, he founded the Springfield "News." He is best known by his novel "Looking Backward" (1888), a socialistic work, of which an immense number of copies were sold in two years. He died in Chicopee Falls, Mass., May 22, 1898.

Bellamy, Mrs. Elizabeth Whitfield, (Croom), an American novelist, writing under the pseudonym KAMBA THORPE, born at Quincy, Fla., 1839.

Bell Bird, a bird, called also the arapunga. It is pure white in color, about a foot in length, and has a voice like the tolling of a bell. It inhabits Guiana.

Belle de Nuit, a name sometimes given to the Marvel of Peru (mirabilis jalapa), sometimes also to certain tropical American and West Indian species of convolvulaceæ, with extremely beautiful and fragrant flowers, which open only during the night.

Belle-Isle, or **Belle-Isle-en Mer,** a French island in the Bay of Biscay, Department of Morbihan, 8 miles S. of Quiberon Point; length, 11 miles; greatest breadth, 6 miles. Pop. about 10,000, largely engaged in the pilchard fishing. The capital is Le Palais, on the N. E. coast.

Belle-Isle, a rocky island 9 miles long, at the E. entrance to the Strait of Belle-Isle, the channel, 17 miles wide, between Newfoundland and the coast of Labrador.

Belle-Isle, an island in the James river, near Richmond, Va., where Union prisoners were confined during the Civil War.

Belles Lettres, polite, or elegant literature: a word of somewhat vague signification. Rhetoric, poetry, fiction, history, and criticism, with the languages in which these works are written come under this head.

Belleville, city and capital of St. Clair county, Ill.; on the Illinois Central and other railroads; 14 miles S. E. of St. Louis, Mo.; is in a wheat, corn, oats, hay, and vegetable section; has valuable coal mines nearby; and manufactures traction engines, glass, stoves and ranges, machinery, bricks, and farming implements. Pop. (1910) 21,122.

Bellville, city, port of entry, and capital of Hastings district, Ontario, Canada; on the Moira river, Quinte bay, and Grand Trunk railroad; 113 miles E. of Toronto; has a fine harbor; superior water-power, and steamer connection with Canadian and United States points; is the seat of Albert College (M. E.); and is chiefly engaged in manufacturing and farming. Pop. (1901) 9,117.

Belligerent, a nation or a large section of a nation engaged in carrying on war. When a revolted party of great numerical strength are able to form a regular government and rule over the whole, or part of the territory which they claim, humanity dictates that they should not be treated as rebels guilty of treason, but should, if captured, be regarded as prisoners

of war. To attain this result, it is needful for those who have risen in arms against the government to make every effort to obtain for their party the position of belligerents. In the contest between the Federals and Confederates, in the war of 1861–1865, the latter, at the commencement of the struggle, claimed the privilege of belligerents. Their demand was acceded to by the British Government, on which the Federal authorities took umbrage, contending that the recognition had been premature.

Bellingham, city, port of entry, and capital of Whatcom county, Wash.; on Bellingham bay and several railroads; 80 miles N. of Seattle; comprises the former cities of Fair Haven and Whatcom, united in 1903; has an excellent harbor on Puget sound, state normal school, two Carnegie libraries and varied manufactures. Pop. (1910) 24,298.

Bellingham, Richard, an English colonial governor, born in 1592; arrived in Boston in 1634, and in the following year became deputy governor of Massachusetts. In 1641 he was candidate for governor against Winthrop, and was elected; was re-elected in 1654 and 1665; and held the governorship at the time of his death. In 1664 he refused to go to England at the command of the King, to defend his administration. He became Major-General in the same year. He died Dec. 7, 1672.

Bellini, the name of a Venetian family which produced several remarkable painters. Giovanni Bellini, born in 1426, died in 1512, was the founder of the older Venetian school of painting, and contributed greatly to its progress. His best works are altar pieces.

Bellinzona, a town of Switzerland, capital of the canton of Ticino; charmingly situated on the left bank of the Ticino, about 5 miles from its embouchure in in the N. end of Lago Maggiore. It occupies a position of great military importance.

Bellman, Carl Michael, a Swedish poet, born in Stockholm, Feb. 4, 1740. His poems were often improvisations, and the airs of his songs were largely of his own composition. As singer of the rollicking life of a capital city, he is unsurpassed. A colossal bronze bust of Bellman, by Bystrom, was erected in the Zoological Garden at Stockholm in 1829, and there a popular festival is held yearly in his honor. He died in Stockholm, Feb. 11, 1795.

Bello, Andres, a Spanish-American diplomatist and author, born in Caracas, Venezuela, Nov. 30, 1780. From 1810 to 1828 he represented Venezuela in London; in 1829, became an official of the Bureau of Finance; in 1834, Minister of Foreign Affairs for Chile; in 1842, the first rector of Santiago University. He was the author of "Principles of International Law" (1832), and his entire works were printed after his death at the expense of the State. He died in Santiago, Chile, Oct. 15, 1865.

Bellona, the goddess of war, and sister or wife, or sister-wife and charioteer of Mars.

Bellot, Joseph René, a French naval officer, born in Paris in 1826. In 1851 he joined the expedition to the Polar regions in search of Sir John Franklin, and took part in several explorations. He was drowned in an attempt to carry despatches to Sir Edward Belcher over the ice, in 1853. His diary was published in 1855.

Bellot Strait, the passage on the N. coast of North America, which separates North Somerset from Boothia Felix, and connects Prince Regent Inlet with Franklin Channel. Its E. entrance was discovered in 1852 by Lieut. Joseph Rene Bellot.

Bellows, an instrument for blowing the fire in manufactories, forges or private houses.

Bellows, Albert F., an American painter born in Milford, Mass., Nov. 20, 1829; was one of the first to succeed with water colors. He died in Auburndale, Mass., Nov. 24, 1883.

Bellows, Henry Whitney, an American Unitarian clergyman and writer, born at Walpole, N. H., June 11, 1814; became pastor of All Souls Church, New York, 1839; was chief founder and long editor of the "Christian Inquirer" (1846); chief originator of the United States Sanitary Commission, and its President during the Civil War (1861–1865). He was

an effective preacher and public speaker. He died in New York, Jan. 30, 1882.

Bellows Fish, called also the trumpet fish or sea snipe. It is 4 or 5 inches long, and has an oblong, oval body and a tubular elongated snout, which is adapted for drawing from among sea-weed and mud the minute crustacea on which it feeds.

Bell Rock, or Inch Cape, a dangerous reef surmounted by a lighthouse, situated in the German Ocean, about 12 miles from Arbroath, nearly opposite the mouth of the river Tay. It is said that in former ages the monks of Aberbrothock caused a bell to be fixed on this reef, which was rung by the waves, and warned the mariners of this dangerous place. The reef is partly uncovered during the ebb tides.

Bell-Smith, Frederic Marlett, an English artist, born in London, Sept. 26, 1846; went to Canada in 1866. He was for seven years Art Director at Alma College, St. Thomas, and teacher of drawing in the public schools of London, Ont. About 1888 he became a portrait and figure painter; but he is best known as a painter of landscapes.

Belmont, a town in the E. part of Cape Colony, midway between Orange River Junction and Kimberley. It was the scene of one of the earliest engagements in the war of 1899–1900, between the Boers and the British under Gen. Lord Methuen. The town was attacked by the British on Nov. 23, 1899, while on the march to the relief of Kimberley, and the battle resulted in a victory for them. Two days later Lord Methuen took Graas Pan, 10 miles N. of Belmont, after again defeating the Boers.

Belmont, August, an American banker, born in Alzey, Germany; educated at Frankfort, and was apprenticed to the Rothschild's banking house in that city when 14 years old. In 1837 he went to Havana to take charge of the firm's interests, and soon afterward was sent to New York city, where he established himself in the banking business and as the representative of the Rothschilds. He was Consul-General of Austria, in 1844–1850; became Charge d'Affaires at The Hague in 1853; and was Minister-Resident there in 1854–1858. He was a delegate to the Democratic National Convention in 1860, and when a portion of the delegates withdrew and organized the convention in Baltimore, he was active in that body, and through it became Chairman of the National Democratic Committee, an office he held till 1872. He was an active worker in the party till 1876, when he closed his political career. He died in New York city, Nov. 24, 1890.

Belmont, August, an American banker, born in New York city, Feb. 18, 1853; son of the preceding. He was graduated at Harvard University in 1875; at once entered his father's banking house, and on the death of his father became head of the firm of August Belmont & Co., also representing the European banking firm of the Rothschilds. In February, 1900, he organized the Rapid Transit Subway Construction Company to back John B. McDonald, who had been awarded the $35,000,000 contract for the construction of a rapid transit system in New York city, which, it is stated, will be in operation in March, 1904.

Belmont, Perry, an American lawyer, born in New York, Dec. 28, 1851; son of August Belmont; graduated at Harvard University in 1872, and at Columbia College Law School in 1876; was admitted to the bar and practiced in New York till 1881, when he was elected as a Democrat to Congress, and served till 1887, being a member of the Committee on Foreign Affairs. In 1885 he was appointed Chairman of the Committee on Foreign Affairs, and in 1888 United States Minister to Spain. He was one of the principals in the execution of the great contract for the construction of a rapid transit system in New York city, in 1900.

Beloit, a city in Rock county, Wis.; on the Rock river and the Chicago & Northwestern and other railroads; 84 miles S. W. of Milwaukee; is the seat of Beloit College (Cong.); has ample power from the river for its factories; and, besides one of the largest wood-working machinery plants in the world, manu-

factures wind-mills, towers and tanks, shoes, and building paper. Pop. (1910) 15,125.

Belshazzar, the last of the Babylonian kings, who reigned conjointly with his father Nabonadius. He perished B. C. 538, during the successful storming of Babylon by Cyrus.

Belt, in astronomy, a varying number of dusky, belt-like bands or zones encircling the planet Jupiter parallel to his equator, as if the clouds of his atmosphere had been forced into a series of parallels through the rapidity of his rotation, and the dark body of the planet was seen through the comparatively clear spaces between.

In physical geography, two passages or straits connecting the Baltic with the German Ocean, viz. (a) the Great Belt, between the islands of Seeland and Laland on the N. and Fuhnen and Langeland, on the W. (b) The Little Belt, between the mainland of Denmark on the W., and the island of Fuhnen on the E.

Beltane, a superstitious observance now or formerly practiced among the Scottish and Irish Celts, as well as in Cumberland and Lancashire. The Scotch observe the Beltane festival chiefly on the 1st of May (old style), though in the W. of that country St. Peter's Day, June 29, was preferred. In Ireland there were two Beltanes, one on the 1st of May, and the other on the 21st of June. The ceremonies varied in different places, but one essential part of them everywhere was to light a fire. At Callander, in Perthshire, the boys went to the moors, cut a table out of sods, sat round it, lit a fire, cooked and ate a custard, baked an oatmeal cake, divided it into equal segments, blackened one of these, drew lots, and then compelled the boy who drew out the blackened piece to leap three times through the fire. Merry-makings came at length to attend the Beltane festival.

Beluga, a species of fish—the great or Hausen, sturgeon. It is sometimes 12 to 15 feet in length, and weighs 1,200 pounds, or in rare cases even 3,000. The best isinglass is made from its swimming bladder. Its flesh, though sometimes eaten, is occasionally unwholesome. It is found in the Caspian and Black Seas and the large rivers which flow into them. The word is also applied to a cetacean. It is called also the white whale. It is from 18 to 21 feet in length, and inhabits Davis Straits and the other portions of the Northern Seas, and sometimes ascends rivers.

Belus, the Roman name of the Assyrian and Babylonian divinity called Bel in Isaiah xlvi: 1.

Belus, a Phœnician river at the base of Mt. Carmel. Its fine sand, according to tradition, first led the Phœnicians to the invention of glass.

Belus, Temple of, an enormous temple in ancient Babylon, rebuilt by Nebuchadnezzar, about 604 B. C. Its site is thought, by some authorities, to be the modern Bers-Nimrud, and by others, Babil.

Belvedere, in architecture the uppermost story of a building open to the air, at least on one side, and frequently on all, for the purpose of obtaining a view of the country and for enjoying cool air. A portion of the Vatican has this name.

Bembo, Pietro, an Italian scholar, born at Venice in 1470. Pope Paul III. conferred on him, 1539, the hat of a cardinal, and soon after the bishoprics of Gubbio and Bergamo. He died in 1547.

Bemis, Edward Webster, an American economist, born in Springfield, Mass., April 7, 1860; graduated at Amherst College in 1880. In 1897 he became Professor of Economical Science in the Kansas State Agricultural College.

Bemis (incorrectly BEMUS) **Heights,** a village in Saratoga county, N. Y., on the Hudson river, famous as the scene of the first battle of Stillwater, Sept. 19, 1777.

Ben (Hebrew, "son"), a prepositive syllable signifying in composition "son of," found in many Jewish names, as Bendavid, Benasser, etc. Beni, the plural, occurs in several modern names, and in the names of many Arabian tribes.

Ben, a Gaelic word signifying mountain, prefixed to the names of many mountains in Scotland N. of the Firths of Clyde and Forth; as, Ben Nevis, Ben MacDhui, etc.

Benaiah, the name of 12 different persons mentioned in the Bible, the one chiefly important being a son of Jehoida, a chief priest. He was made commander-in-chief in Joab's place by Solomon.

Benalcazor, Belasazor, or **Velalcazor, Sebastian de,** the name given to SEBASTIAN MOVANO from his native town; a Spanish soldier who figured in the Spanish conquests in South America. His gallant conduct attracted the attention of Pizarro, who promoted him. He took the city of Quito, made an expedition into Colombia and reduced Popayan, and was appointed governor of that part of the country in 1538. He was forced to resign this office in consequence of legal complications and died when about to return to Spain, in 1550.

Benares, a town in Hindustan, Northwest Provinces, administrative headquarters of a district and division of the same name, on the left bank of the Ganges, from which it rises like an amphitheater, presenting a splendid panorama of temples, mosques, palaces, and other buildings, with their domes, minarets, etc. Fine ghauts lead down to the river. It is one of the most sacred places of pilgrimage in all India, being the headquarters of the Hindu religion. The principal temple is dedicated to Siva, whose sacred symbol it contains. It is also the seat of government and other colleges, and of the missions of various societies. Benares carries on a large trade in the produce of the district and in English goods, and manufactures silks, shawls, embroidered cloth, jewelry, etc. The population in 1901, was 203,100.

Benbow, John, an English admiral, born in Shrewsbury about 1650, died 1702. For his skill and valor in an action with a Barbary pirate he was promoted by James II. to the command of a ship of war. William III. employed him in protecting the English trade in the Channel, which he did with great effect, and he was soon promoted to the rank of rear-admiral. In 1701 he sailed to the West Indies with a small fleet, and in August of the following year he fell in with the French fleet under Du Casse, and in the heat of action a chain-shot carried away one of his legs. At this critical instant, being most disgracefully abandoned by several of the captains under his command, the whole fleet effected its escape. Benbow, on his return to Jamaica, brought the delinquents to a court-martial, by which two of them were condemned to be shot. He himself died of his wounds.

Bench Warrant, a warrant issued by the court before which an indictment has been found to arrest the accused, that he may appear and find bail for his appearance at the trial. It is used extensively in the United States to bring into court persons who have neglected to obey an order of court, such as delinquent jurymen.

Bencoolen, a seaport on the W. coast of Sumatra Island, Dutch East Indies; capital of a Residency of the same name. It was founded in 1685 by the English and ceded to the Dutch in 1824. Area of Residency, 9,690 square miles; pop. of Residency, 140,126; of town, 5,000.

Bendemann, Eduard, a German painter, born in Berlin, Dec. 3, 1811; died in Dusseldorf, Dec. 27, 1889.

Bendire, Charles Emil, a German-American military officer and ornithologist, born in Darmstadt, Germany, April 27, 1836, came to the United States in 1852, and entered the army in 1854. He served through the Civil War, becoming a Captain in the 1st Cavalry. After the war he was transferred to the West, and was retired April 24, 1886. During his stay in the West he applied himself to the study of ornithology, and collected a vast amount of material in various branches of natural history. In 1870 he began to collect the eggs of North American birds, which finally numbered more than 8,000 specimens, and this collection he presented to the United States National Museum. He is the author of "The Life Histories of North American Birds, with Special Reference to their Breeding Habits and Eggs."

Benedetti, Vincent, Count de, a French diplomatist of Italian extraction, born in Bastia, Corsica, April 29, 1817; died in Paris, March 28, 1900.

Benedict, a married man; from the Latin benedictus (a happy man).

Benedict VII., Pope, succeeded John XIII. in 972. After the death of the Emperor Otho I., the Romans imprisoned Benedict, who was strangled in the castle of St. Angelo, in 974.

Benedict XIV., Pope, was born at Bologna in 1675, of the noble family of Lambertini. Benedict was learned, not only in theology, but in history and literature, and had also a taste for the fine arts. His works were published at Rome, in 12 volumes quarto. He died in 1758, and was succeeded by Clement XIII.

Benedict, St., the founder of the Order of the Benedictine Monks, was born at Nursia, in the Dukedom of Spoleto, in Italy, in 480 A. D. Authors are not agreed upon the time and place of his death.

Benedict, David, a Baptist clergyman and historian, born at Norwalk, Conn., in 1779; was pastor at Pawtucket, R. I., for 25 years, and preached till over 90 years of age. He died in 1874.

Benedict, Frank Lee, an American novelist and poet, born in New York in 1834.

Benedictine, a follower of ST. BENEDICT (q. v.). From the predominantly black color of their attire, they were sometimes called Black Monks. They must not be confounded with the Black Friars, who were Dominicans.

Benediction (from the Latin benedicere, literally, "to speak well of;" "to commend"), a solemn invocation of the Divine blessing upon men or things. The ceremony in its simplest form may be considered almost coeval with the earliest expressions of religious feeling. The Sabbath is said to have been blessed. Christ "took bread and blessed it," and "lifting up His hands," blessed His disciples. In the primitive Church the custom gradually developed itself in various liturgical forms. In Protestant churches a form of benediction is used at the close of religious services. In the Roman Church a priestly benediction has been defined as a formula of imperative prayer, which, in addition to the desire which it expresses, transmits a certain grace or virtue to the object over which it is pronounced.

Benedictus, the name given to the hymn of Zacharias (Luke i: 68), used as a canticle in the morning service of the Episcopal Church to follow the lessons. This position it has occupied from very ancient times. It is also used in the Church of Rome.

Benefice, under the feudal system, an estate held by feudal tenure. Formerly, and even sometimes yet, the word was applied to an ecclesiastical living of any kind, any church endowed with a revenue, whether a dignity or not.

Benefit of Clergy, the advantage derived from the preferment of the plea "I am a clergyman." When in medieval times, a clergyman was arraigned on certain charges he was permitted to put forth the plea that with respect to the offense of which he was accused, he was not under the jurisdiction of the civil courts, but, being a clergyman, was entitled to be tried by his spiritual superiors. The cases in which the benefit of clergy might be urged were such as affected the life or limbs of the offender, high treason, however, excepted. The exemption has never been recognized in America, and is abolished in Great Britain.

Benevento (ancient Beneventum), a city of Southern Italy, 32 miles N. E. of Naples, and is the capital of a province of same name. Near Benevento, in 1266, was fought the great battle between Charles of Anjou and his rival, Manfred, in which the latter was killed, and his army totally defeated. During the reign of Napoleon I., Benevento was formed into a principality conferred on Talleyrand. In 1815, it again reverted to the Pope. In 1860, it was annexed to the kingdom of Italy. Population est. 245,834.

Benevolence, in the history of the law of England, was a species of forced loan or contribution, levied by kings without legal authority. It was first so called in 1473, when asked from his subjects by Edward IV. as a mark of good will toward his rule. James I. tried, but with little success, to raise money by this expedient, and it was never again attempted by the crown; Charles I. expressly declining to have recourse to it.

Benezeth, Anthony, a French-American philanthropist, was born in St. Quentin's, France, Jan. 31, 1713; lived from infancy in England and the United States. The greater part of his writings were in the form of tracts against the slave trade and in favor of the American Indians. He died in Philadelphia, Pa., May 3, 1784.

Benfey, Theodor, a German Orientalist and comparative philologist, born of Jewish parents near Gottingen, Jan. 28, 1809. In 1862 he was appointed to the chair of Sanskrit and Comparative Philology in the University of Gottingen, which he held till his death, June 26, 1881.

Benga, an African tribe, living on the Spanish island, Corisco, off the W. coast, having moved from the interior within a few generations. The American Presbyterian Board of Missions have Christianized many of the Bengas and translated books into their language, which closely resembles the Kamerun and Dualla.

Bengal. In the widest application the name presidency of Bengal is extended to the whole of British India, except what is under the governors of Madras and Bombay. But the name is now usually restricted to that portion which is under the lieutenant-governor of Bengal. The total population in 1901 amounted to 74,713,020.

The English first got a firm footing in Bengal about 1644, and in 1707, Calcutta was erected into a presidency, and the foundation of British power in India laid. A bill conferring upon agricultural tenants a transferable interest in their holdings and protecting them against eviction was passed in 1885.

Bengal, Bay of, that portion of the Indian Ocean which lies between Hindustan and Farther India, or Burma, Siam, and Malacca, and may be regarded as extending S. to Ceylon and Sumatra. It receives the Ganges, Brahmaputra, and Irrawadi.

Bengal, or **Bengola, Light,** a kind of firework, giving a vivid and sustained blue light. It is used for signals at sea.

Bengough, John Wilson, a Canadian poet, born in Toronto, April 5, 1851; studied in the Whitley District and Grammar School. In 1873 he established the "Grip," a humorous weekly, in Toronto. His political cartoons in this paper were highly artistic. He is also widely known as a lecturer and a poet.

Benguela, a district belonging to the Portuguese on the W. coast of South Africa; bounded N. by Angola, and S. by the Kunene river; founded by the Portuguese in 1617.

Benguet, a province of Luzon, Philippines; separated from the central W. coast by the province of La Union; area, 990 square miles; pop. (1903) 22,745; capital, Baguio, 143 miles N. of Manila; native races, Ilocano and Igarrotes.

Ben-Hadad, or **Benhaddad,** the name of three kings of Syria. The first was a contemporary of Asa, King of Judah (929–873 B. C.), I Kings, xv. The second (860–824 B. C.) of the time of Ahab, King of Israel, I Kings, xx. The third at the time of Jehoahaz, King of Israel (856–839 B. C.), II Kings, xiii.

Benham, Andrew Ellicott Kennedy, an American naval officer, born in New York, April 10, 1832; entered the navy in 1847; was commissioned Rear-Admiral in 1890, and was retired in 1894. During the Civil War he served in the South Atlantic and West Gulf Blockading Squadrons. In April, 1893, he commanded one of the divisions in the great naval display at New York; in 1894, as commander of a squadron at Rio de Janeiro, Brazil, he forced the commander of the insurgents' squadron to raise the blockade of the city and to discontinue firing on American merchant vessels; and in 1898 was naval prize commissioner in Savannah, Ga.

Benham, Henry W., an American military engineer, born in Cheshire, Conn., in 1816; was graduated at the United States Military Academy in 1837; and became Colonel of the United States Engineers, and Brevet Major-General, United States army. He commanded the engineer brigade and laid several pontoon bridges under fire during the Chancellorsville battles; constructed and commanded the defenses at City Point; devised the picket shovel; and made many improvements in the construction of pontoon bridges, in which he was a

recognized expert. He died in New York, June 1, 1884.

Beni, a river of Bolivia, South America; formed by the union of all the streams flowing down the Eastern Cordillera.

Beni-Hassan, a village of Middle Egypt, on the E. bank of the Nile, remarkable for the grottoes or catacombs in the neighborhood.

Beni-Israel, a race in the W. of India (the Konkan sea board, Bombay, etc.) who keep a tradition of Jewish origin, and whose religion is a modified Judaism; supposed to be a remnant of the ten tribes.

Benin, a former negro kingdom of West Africa, on the Bight of Benin, extending along the coast on both sides of the Benin river, W. of the lower Niger, and to some distance inland. The chief town is Benin (pop. 15,000), situated on the river Benin, one of the mouths of the Niger.

In February, 1897, the Benin country was included within the Niger Coast Protectorate, and a British Resident was installed in the chief town. The whole territory was then between 3,000 and 4,000 square miles in extent, contained about 400 towns and villages, and had a population of which no trustworthy estimate could be formed.

Benin, Bight of, part of the Gulf of Guinea, West Africa, which extends into the land between the mouth of the river Volta and that of the Nun.

Benjamin, the youngest son of Jacob and Rachel (Gen. xxxv: 16–18). Rachel died immediately after he was born, and with her last breath named him Ben-oni, the "son of my sorrow;" but Jacob called him Benjamin, "son of my right hand."

The tribe of Benjamin, small at first, was almost exterminated in the days of the Judges, but afterward it greatly increased. On the revolt of the ten tribes, Benjamin adhered to the camp of Judah; and the two tribes ever afterward closely united. King Saul and Saul of Tarsus were both Benjamites.

Benjamin, Judah Philip, an American lawyer, born in St. Croix, West Indies, Aug. 11, 1811; was of English parentage and of Jewish faith. He was educated at Yale College; admitted to the bar in New Orleans, in 1832; and elected to the United States Senate in 1852 and 1858. At the beginning of the Civil War, he resigned from the Senate and declared his adhesion to the State of Louisiana. In 1861 he accepted the office of Attorney-General in the Cabinet of Jefferson Davis, and afterward became successively Confederate Secretary of War and Secretary of State. After the war he went to London, England, where he was admitted to the bar in 1866. He gained a successful practice, and in 1872 was formally presented with a silk gown. He wrote a "Treatise on the Law of Sale of Personal Property" (1868). He died in Paris, May 7, 1884.

Benjamin, Park, an American journalist, poet, and lecturer, born at Demerara, British Guiana, Aug. 14, 1809. He studied law originally. His poems, of a high order of merit, have never been collected. He died in New York, Sept. 12, 1864.

Benjamin, Park, an American lawyer, editor, and miscellaneous writer, son of the preceding, born in New York, May 11, 1849. A graduate of the United States Naval Academy (1867), he served on Admiral Farragut's flagship, but resigned in 1869. As a lawyer he has been a patent expert. He edited the "Scientific American" (1872–1878).

Benjamin, Samuel Green Wheeler, an American traveler, artist, and miscellaneous writer, born at Argos, Greece, Feb. 13, 1837. He was United States Minister to Persia (1883–1885).

Bennett, Charles Wesley, an American Methodist clergyman and educator, born at East Bethany, N. Y., July 18, 1828; was Principal of Genesee Wesleyan Seminary (1869–1871), Professor of History and Logic at Syracuse University (1871–1885), Professor of Historical Theology at Garrett Biblical Institute, Evanston (1885–1891). He died at Evanston, Ill., April 17, 1891.

Bennett, Edmund Hatch, an American lawyer, born in Manchester, Vt., April 6, 1824; was graduated at the University of Vermont in 1843,

and admitted to the bar in 1847. From 1871 he was Professor and Dean at the Law School of Boston University.

Bennett, James Gordon, a Scotch-American journalist; founder and proprietor of the New York "Herald," born in Newmill, Keith, Sept. 1, 1795. Trained for the Roman Catholic priesthood, he emigrated to the United States in 1819, where he became in turn teacher, proof reader, journalist, and lecturer; he founded the New York "Herald," May 6, 1835, price one cent. He spared no effort and expense in securing news, and laid the foundation of its after enormous success. It was the first newspaper to publish the stock lists and a daily money article. He died in New York, June 1, 1872.

Bennett, James Gordon, an American journalist, born in New York city, May 10, 1841; son of James Gordon Bennett, founder of the New York "Herald," of which he became managing editor in 1866, and from that time largely controlling, and becoming proprietor on the death of his father in 1872. In 1870 he sent Henry M. Stanley on the exploring expedition which resulted in the finding of Dr. Livingstone, and, in conjunction with the London "Daily Telegraph," supplied the means for his journey across Africa by way of the Kongo in 1874–1878. He founded the "Evening Telegram" in New York, and established daily editions of the "Herald" in Paris and London. He early gave much attention to yachting. He resides mainly in Paris, collecting foreign news, and directing by telegraph the management and policy of his newspapers. The New York "Herald" was incorporated in 1899.

Bennett, Joseph H., an American philanthropist, born in Juliustown, N. J., Aug. 16, 1816. He engaged in the clothing business in Philadelphia, Pa., when 16 years old. His property was said to be worth $3,000,000, and it is estimated that he gave $1,000,000 to charity. He bequeathed $500,000 to the University of Pennsylvania for its proposed college for women. He died in Philadelphia, Sept. 29, 1898.

Bennett, Sanford Fillmore, an American hymnologist, born in Eden, N. Y., in 1836. He settled in Elkhorn, Wis., in 1860, and became editor of the "Independent." Resigning this place, he entered the 40th Wisconsin Volunteers and served with them throughout the war. In 1867 he aided J. P. Webster, the composer, in preparing "The Signet Ring," a Sunday School hymn book, to which he contributed about 100 hymns. "The Sweet Bye and Bye" was one of the first of these. Many of Mr. Bennett's hymns and songs have been published in sheets. He died in Richmond, Ill., June 12, 1898.

Ben-Nevis, the most lofty mountain in Great Britain, in Invernesshire, immediately E. of Fort William and the opening of the Caledonian canal, at the S. W. extremity of Glenmore. It rises to the height of 4,406 feet, and in clear weather yields a most extensive prospect. An observatory was established on its summit in May, 1881, by the Scottish Meteorological .Society.

Benningsen, or Bennigsen, Levin August, Baron, a Russian general, born in Hanover in 1745. He entered the service of Catherine II., and distinguished himself by great gallantry. He died in 1826.

Bennington, town and county-seat of Bennington co., Vt.; on the Bennington and Rutland and the Lebanon Springs railroads; 36 miles E. of Troy, N. Y. Bennington is historically famous on account of the battle fought Aug. 16, 1777, when General Stark with his "Green Mountain Boys" defeated a large British detachment sent from General Burgoyne's army to capture the public stores near North Bennington. Pop. (1910) 6,211.

Bennington, The, a twin-screw, steel gunboat of the United States navy.

Benoit, Pierre Leopold Leonard, a Flemish musician and composer, born in Harelbeke, Belgium, Aug. 17, 1834; a pupil of Fetis. He has held the position of Director of the Flemish School of Music in Antwerp since 1867; and has written a number of oratorios, cantatas, and operas.

Benteen, Frederick William, an American military officer, born in Petersburg, Va., Aug. 24, 1834; was educated in his native State; and at the outbreak of the Civil War went to Missouri and organized a company of Union volunteers. His most brilliant service after the war was in his campaigns against the Indians. He died in Atlanta, Ga., June 22, 1898.

Bent Grass, a genus of grasses, distinguished by a loose panicle of small, flowered, laterally compressed spikelets. The species are numerous and are found in almost all countries and climates.

Bentham, Jeremy, an English jurist, born in London, Feb. 15, 1748; educated at Westminster and Oxford; entered Lincoln's Inn, in 1763. He was called to the bar, but did not practice, and, having private means, devoted himself to the reform of civil and criminal legislation. He died in London, June 6, 1832, leaving his body for dissection. His remains are to be seen at University College, London.

Bentley, Richard, a celebrated English divine and classical scholar, distinguished as a polemical writer; born near Wakefield, in Yorkshire, Jan. 27, 1662. He died at the master's lodge at Trinity, July 14, 1742.

Benton, Thomas Hart, an American statesman, born near Hillsboro, N. C., March 14, 1732; settled in Tennessee, where he studied law, and was elected to the Legislature. In 1812 he raised a regiment of volunteers, and also served on General Jackson's staff. After the war, he started a newspaper in St. Louis, by which he became involved in several duels. On the admission of Missouri as a State, he was chosen United States Senator in 1820, and, in this post, during 30 years' continuous service, took a leading part in public affairs. A determined opponent of Calhoun's nullification scheme, he afterward supported Jackson in his war on the United States bank, and earned the sobriquet of "Old Bullion" by his opposition to the paper currency. He died in Washington, April 10, 1858.

Benzene, or **Benzol** (C_6 H_6), a carbon compound, best obtained from the destructive distillation of coal-tar. It is the source from which is derived all the aniline colors, and artificial flavors.

Benzine (C_6 H_{14}), a liquid hydrocarbon obtained from a fractional distillation of petroleum. It may also be got by distilling 1 part of crystallized benzoic acid intimately mixed with 3 parts of slacked line. It is quite colorless, of a peculiar, etheral, agreeable odor, is used by manfacturers of india-rubber and gutta-percha, on account of its great solvent powers, in the preparation of varnishes, and for cleaning gloves, removing grease-spots from woollen and other cloths, etc., on account of its dissolving fats and resins. It is highly inflammable, and must be used with great caution. It must not be confounded with benzene.

Benzoin, a solid, fragile, vegetable substance, of a reddish-brown color. Benzoin is obtained from the tree called Styrax benzoin, and perhaps from some others. On making incisions into the bark, it flows out in the form of a balsamic juice, having a pungent taste and an agreeable odor.

Beothukan, (red man, or Indian), a linguistic stock of North American Indians, inhabitants of the region of the Exploits river in Northern Newfoundland, and believed to have been limited to a single tribe, the last known survivor of which died in 1829.

Beowulf, an Anglo-Saxon epic, the only manuscript of which belongs to the 8th or 9th century, and is in the Cottonian Library (British Museum). The poem, which is the longest and most important in Anglo-Saxon literature, is in many points obscure, and the manuscript is somewhat imperfect.

Béranger, Pierre Jean de, the national poet of France; born in Paris, Aug. 19, 1780. He died in Paris, July 16, 1857, and received the honor of a public funeral, at which the most eminent men in France, both of the world of literature and politics, attended.

Béraud, Jean, a painter of great power, born in St. Petersburg, of French parentage, in 1845. His subjects are usually chosen from Parisian life. His latest works have been modernized scenes from the New Testament.

Berbera, a seaport of British Somaliland, Eastern Africa, with a

good harbor, on a bay of the Gulf of Aden. It was conquered by Egypt in 1875, but in July, 1884, the British Government took possession of it, and a small Indian force is now stationed here. It is the scene of a large annual fair, which brings over 30,000 people together from all quarters in the East. Coffee, grains, ghee, gold dust, ivory, gums, cattle, ostrich feathers, etc., are brought hither from the interior, and exchanged for cotton, rice, iron, Indian piece goods, etc.

Berbers, a people spread over nearly the whole of Northern Africa, from whom the name Barbary is derived. The chief branches into which the Berbers are divided are, first, the Amazirgh, or Amazigh, of Northern Morocco, numbering from 2,000,000 to 2,500,000. They are for the most part quite independent of the Sultan of Morocco, and live partly under chieftains and hereditary princes and partly in small republican communities. Second, the Shuluh, Shillooh, or Shellakah, who number about 1,450,000, and inhabit Southern Morocco. They are more highly civilized than the Amazirgh. Third, the Kabyles in Algeria and Tunis, who are said to number 960,000; and fourth, the Berbers of the Sahara, who inhabit the oases. Their language has affinities to the Semitic group, but Arabic is spoken along the coast. They are believed to represent the ancient Mauritanians, Numidians, Gætulians, etc.

Berbice, a river of British Guiana; flows generally N. E. into the Atlantic. It is navigable for small vessels for 165 miles from its mouth, but beyond that the rapids are numerous and dangerous.

Berea College, a co-educational (non-sectarian) institution, in Berea, Ky.; organized in 1858. Under the guidance of the able men who directed its course, this institution did an almost incredible work among the mountaineers both black and white in the Southern States. In the winter of 1903-1904, the Kentucky legislature forbade co-education of white and blacks, and Berea was obliged to establish branch for its colored students.

Berean, a Scottish religious sect founded by the Rev. J. Barclay in 1773, and also called Barclayans.

Berengarius, of Tours, a theologian of the 11th century. He was born at Tours in 908, long held an ecclesiastical office there, and was afterward archdeacon of Angers. He was thoroughly versed in the philosophy of his age, and did not hesitate to apply reason to the interpretation of the Bible. He denied the dogma of transubstantiation, and was charged with heresy. He died on the Isle of St. Cosmos, near Tours, in 1088.

Berenice, a daughter of Herod Agrippa I., who was the son of Aristobulus, who was the son of Herod the Great (Acts xii; Matthew ii). She was the sister of Herodes Agrippa II., before whom Paul preached A. D. 63 (Acts xxv: 13), and the wife of Herodes of Chalcis, who seems to have been her uncle, and left her a young widow. After the capture of Jerusalem she went to Rome (A. D. 75), and Titus is said to have been so much attached to her that he promised to marry her; but on the death of his father he sent Berenice from Rome, much against his will and hers, when he found that the proposed match was disagreeable to the people.

Beresford, Lord Charles de la Poer, an English naval officer, born in Ireland, Feb. 10, 1846; became a Cadet in 1857; Lieutenant, 1868; Captain, 1882; and Rear-Admiral, 1897. In 1882 he commanded the "Condor" in the bombardment of Alexandria, and was especially mentioned and honored for his gallantry. In December, 1899, was appointed the second in command of the British squadron mobilized in the Mediterranean Sea. Lord Beresford accompanied the Prince of Wales on his visit to India in 1875–1876, as naval aide-de-camp, and held the same relation to the Queen in 1896–1897. He has served several terms in Parliament. Besides the numerous honors for gallantry as an officer he has received three medals for saving life at sea under trying circumstances. In 1898 he visited China at the request of the Associated Chambers of Commerce of Great Britain to make a study of the complicated commercial conditions existing there; and on his return, in 1899, he passed through the United States

and was received with distinguished honors by official and commercial bodies. He has done much to promote the "open door" policy as a condition of international commerce in China.

Beresina, or **Berezina,** a river of Russia in Europe; rendered famous on account of its disastrous passage by the French army during the retreat of Napoleon I. from Russia, in 1812.

Berezovsk, a village in the Russian province of Perm, near Ekaterinburg, gives name to a famous gold field, wrought since 1744.

Berg, Frederick William Rambert, a Russian general, chiefly notorious for the severity with which he treated the unfortunate population of Poland during the insurrection of 1863, and which excited the horror and indignation of the civilized world.

Bergamot, a fruit tree, a variety or species of the genus citrus, variously classed with the orange, citrus aurantium, the lime, atrus limetta, or made a distinct species as citrus bergamia. It is probably of Eastern origin, though now grown in Southern Europe, and bears a pale yellow, pear-shaped fruit with a fragrant and slightly acid pulp. Its essential oil is in high esteem as a perfume. Bergamot is also a name given to a number of different pears.

Bergen, a seaport on the W. coast of Norway, the second town of the kingdom, about 25 miles from the open sea, on a bay of the Byford. The trade is large, timber, tar, train oil, cod liver oil, hides, and particularly dried fish (stock fish) being exported in return for corn, wine, brandy, coffee, cotton, woolens, and sugar. In 1445 a factory was established here by the Hanseatic cities of Germany. Pop. (1900) 72,251.

Bergerac, Savinien Cyrano de, a French author, born in Paris in 1619, distinguished for his courage in the field, and for the number of his duels, more than a thousand, most of them fought on account of his monstrously large nose. He died in 1655. His writings are often crude, but full of invention, vigor, and wit. He was made the hero of a drama bearing his name, written by Edmond Rostand, the French playwright, which had a phenomenal success in the United States in 1899–1900, and was the occasion of a suit for plagiarism.

Bergerat, Auguste Emile, a French journalist, playwright and novelist, born in Paris, April 29, 1845, son-in-law of Theophile Gautier, and since 1884, particularly known as the amusing chronicler of the "Figaro" under the pseudonym of "Caliban." He also wrote two novels.

Bergh, Henry, an American philanthropist, born in New York in 1823; was founder and President of the American Society for the Prevention of Cruelty to Animals (1866), founder of the American Society for the Prevention of Crueity to Children (1881), Secretary of Legation and acting Vice-Consul at St. Petersburg (1862–1864). He died in New York city, March 12, 1888.

Bergh, Pieter Theodoor Helvetius van den, a Dutch dramatist and poet, born in 1799; died in 1873.

Berghaus, Heinrich, a German geographer, born in Cleves, Prussia, May 3, 1797; died in Stettin, Feb. 17, 1884.

Bergman, Ernest von, a German surgeon, born in Riga, Dec. 16, 1836. He was educated at Vienna, Dorpat, and Berlin. He served in the Prussian army during 1866-1870; was Professor of Surgery in the University of Würzburg in 1878-1882; and became Director of the Surgical Clinic at Berlin University in 1882. He died March 25, 1907.

Bergman, Torbern Olof, a Swedish physicist and chemist, born in Catherineberg, March 20, 1735. His theory of chemical affinities greatly influenced the subsequent development of chemistry. He died July 8, 1784.

Bergmann, Carl, a German musician, born in Ebersbach, Saxony, April 11, 1821. Being implicated in the Revolution of 1848, he left Germany for the United States in 1849. An enthusiastic Wagnerite, he was himself the composer of an opera, a symphony and many concert pieces. He died in New York city, in August 1876.

Beriberi, Beriberia, Berriberi, or **Barbiers,** an acute disease characterized by oppression of breathing, by general œdema, by paralytic

weakness, and by numbness of the lower extremities. It is generally fatal It occurs frequently in Ceylon among the colored troops, and on some portions of the Indian coast.

Bering, or **Behring, Vitus,** a Danish explorer, born in Jutland, in 1680. After making several voyages to the East and West Indies, he entered the service of Russia, while still young; became a captain-commander in 1772; and was sent by the Empress Catharine in charge of an expedition (planned by Peter the Great before his death), the object of which was to determine if Asia and America were united. Crossing Siberia he sailed from the river Kamchatka in July, 1728; and reached lat 67° 18′ N., having passed through the strait since called after him, without knowing it. Discovering that the land trended greatly to the W. he concluded that the continents were not united, and returned; without, however, seeing America. In another voyage, in 1774, he touched upon the American coast, in lat 58° 21′ N.; and gave name to Mount St. Elias. In returning his ship was cast upon an island, since named after him, an outlier of the Aleutian group, and here he perished, in December, 1741.

Bering Sea, that part of the North Pacific Ocean between the Aleutian Islands, in 55°, and Bering Strait, in 66° N., by which latter it communicates with the Arctic Ocean. The United States having claimed the exclusive right of seal fishing in the Bering Sea in virtue of the purchase of Alaska from Russia, and this right having been disputed by the British, it was decided in August, 1893, by an arbitration tribunal, to which the question was referred, that no such right existed, but at the same time regulations for the protection of the fur seal were drawn up and agreed to between the two powers, the chief being the prohibition of seal fishery within the zone of 60 miles round the Pribilof Islands, inclusive of the territorial waters, and the establishment of a close season for the fur seal from May 1 to July 31 inclusive, applying to the part of the Pacific and Bering Sea, N. of 35° and E. of the 180th meridian from Greenwich.

Bering Strait, the channel which separates Asia and America at their nearest approach to each other. It was discovered by Bering in 1728, and first explored by Cook in 1788.

Berkeley, a town in Alameda county, Cal.; on the Southern Pacific railroad; 8 miles N. E. of San Francisco; is the seat of the State University and of the State Institution for the Deaf, Dumb, and Blind. Pop. (1910) 40,434.

Berkeley, Dr. George, Bishop of Cloyne, born in Ireland in 1685; became fellow of Trinity College, Dublin, in 1707; in 1724 Dean of Derry. He published proposals for the conversion of the American savages to Christianity by the establishment of a college in the Bermuda Islands. He arrived at Rhode Island in 1728, but, the plan lacking support, he returned and became Bishop of Cloyne. He died suddenly at Oxford in 1753. Berkeley holds an important place in the history of philosophy. His most celebrated philosophical work is: Treatise on the Principles of Human Knowledge, 1710, in which his philosophical theory is fully set forth.

Berkeley, Sir John, one of the proprietors of New Jersey, born in 1607. He was a prominent Royalist during the contest of Charles I. with Parliament. Charles II. granted him, with Sir George Carteret, a proprietary interest in New Jersey and Carolina. He died Aug. 28, 1678.

Berkeley, Sir William, an English colonial Governor, born near London, about 1610. In 1632 he was a Commissioner of Canada, and in 1641 became governor of Virginia. In 1676 he resigned and returned to England. He died July 13, 1677.

Berkshires, The, or **Berkshire Hills,** a range of mountains in the N. W. of Massachusetts; in Berkshire county; stretching 16 miles N. and S.

Berlin, town and capital of Waterloo county, Ontario, Canada; on the Grand river and the Grand Trunk and other railroads; 63 miles W. of Toronto; contains a Roman Catholic college and several manufacturing plants. Pop. (1901) 9,747.

Berlin, the capital of the Prussian dominions and of the German em-

pire, the residence of the Emperor of Germany and foreign ambassadors; in the province of Brandenburg; the largest city in Germany, and, for the beauty and size of its buildings, the regularity of its streets, the importance of its institutions of science and art, and its activity, industry, and trade, one of the first in Europe. It is situated on a dreary sandy plain, about 126 feet above the level of the sea, on both sides of the Spree, a sluggish stream, here about 200 feet broad, which winds through the city from S. E. to N. W., and divides into several branches and canals. The main stream and its branches are spanned by a large number of bridges.

The literary institutions of the city are numerous and excellent. They include the university, the academy of sciences; the technical high school, the mining academy, the high school of agriculture, the academy of arts, the school of music, the seminary for Oriental languages, the military academy and school of engineering, many gymnasia and real-schools; an institution for instructing the deaf and dumb, etc. The chief libraries are the royal library, founded in 1659, and now containing 900,000 volumes and 25,000 manuscripts; and the university library, with about 300,000 volumes. The public museums and picture galleries are on a scale adequate to the importance of the city. The Evangelical Lutheran Cathedral dedicated 1905, in the presence of Kaiser Wilhelm II., is one of the finest modern churches in the world.

The most important branches of manufacturing industries are steam engines and other machinery; brass-founding, the making of lamps and other articles of metal; printing and the kindred arts, spinning and weaving, the making of sewing machines, paper, tobacco and cigars, pottery and porcelain, pianos and harmoniums, artificial flowers, brewing, etc. A considerable quantity of the manufactures are exported In the royal iron-foundry, busts, statues, bas-reliefs, etc., are cast, together with a great variety of ornaments of unrivaled delicacy of workmanship. Berlin is well supplied with city and other railways. Berlin has rapidly risen to be the first city in Germany in respect of population, architecture, and political influence. Pop. (1900) 1,888,326.

Berlin, University of, a celebrated institution of learning in Berlin, Germany. It is, with the exception of Bonn, the youngest of the German universities, but is probably the most famous of them all.

Berlioz, Hector, a French composer, born in La Cote St. Andre, Dec. 11, 1803. He forsook medicine to study music at the Paris Conservatoire, where he gained the first prize in 1830 with his cantata, "Sardanapale." He died in Paris, March 9, 1869. After his death appeared "Memoires," written by himself.

Berm, or **Berme,** in fortification, a narrow, level space at the foot of the exterior slope of a parapet, to keep the crumbling materials of the parapet from falling into the ditch.

In engineering, a ledge or bench on the side or at the foot of a bank, parapet, or cutting, to catch earth that may roll down the slope or to strengthen the bank. In canals, it is a ledge on the opposite side to the towpath, at the foot of a talus or slope, to keep earth which may roll down the bank from falling into the water. Slopes in successive benches have a berme at each notch, or, when a change of slope occurs, on reaching a different soil.

Bermuda Cedar, a species of cedar which covers the Bermuda Islands. The timber is made into ships, boats and pencils.

Bermuda Grass, a species of grass, called in Bermuda, devil grass. It grows in the American Southern States and in Southern Europe. It is much esteemed for pasture.

Bermuda Hundred, a locality in Chesterfield county, Va.; the scene of a battle in the Civil War between the Union troops under General Butler, and the Confederates under General Beauregard. The battle was fought May 16, 1864, and resulted in a defeat for Butler.

Bermudas, The, or **Somer's Islands,** a group of small islands, about 300 in number, in the North Atlantic Ocean, belonging to Great Britain, stretching N. E. by E. and S. W. by W. about 20 miles, the light-

house on Gibb's Hill being 580 miles S. E. of Cape Hatteras; area, about 30 square miles. The principal islands are those of Bermuda, St. George, Ireland, and Somerset. The protection afforded to shipping by their numerous bays, and their position in the track of the homeward bound West India vessels, have led to the conversion of the Bermudas into a maritime rendezvous, and likewise, into a British naval station for West Indian fleets. The harbor of St. George's Island has been greatly improved, is fortified, protected by a breakwater, and has water and space enough to float the largest fleet. The principal productions are fruits, vegetables, maize, and tobacco. Pineapples are very abundant and largely exported. The climate is mild and salubrious; almost realizing the idea of a perpetual spring. Fish abounds, and forms a profitable source of industry to the inhabitants. Breadstuffs, etc., are imported from the United States, and manufactured goods from England. Hamilton, on Bermuda Island, is the seat of the colonial government. Pop. (1901) 17,535. These islands were discovered by Bermudez, a Spaniard, in 1522, and settled by the English in 1607, and are supposed to be the "still vexed Bermoothes," mentioned in Shakespeare's "Tempest." They are a favorite winter resort.

Bermudez, Remigio Morales, a Peruvian statesman, born in Tarapaca Province, Sept. 30, 1836; began business in the nitrate trade in his native province. In 1854, as a lieutenant, he joined the revolutionary army, which finally overthrew General Echinique's government. In 1864 he joined the revolution against President Castilla. In the war with Chile, he led the force that marched to Africa. When Caceres was elected President, in 1886, Bermudez was chosen Vice-President, and was elected President in 1890. He died in Lima, March 31, 1894.

Bern, or **Berne,** a Swiss canton, bounded on the N. by France. It is the most populous, and next to the Grisons, the most extensive canton of Switzerland, its area being nearly 2,650 square miles, and its pop. (1900) 589,433, more than one-sixth of the Swiss people.

Bern, the chief city of the above canton, was, by the decision of the Council of the Confederation, in 1848, declared to be the political capital of the Commonwealth. Pop. (1901) 64,864. Bern was founded by Duke Berthold V., of Zahringen, in 1191, and was made a free and imperial city by a charter from the Emperor Frederick II., dated May, 1218.

Bernadotte, Jean Baptiste Jules, a French general, afterward raised to the Swedish throne, was the son of an advocate of Pau, born Jan. 26, 1764. He enlisted at 17, became sergeant-major in 1789, and subaltern in 1790. In 1794 he was appointed a General of Division, and distinguished himself greatly in the campaign in Germany, and on the Rhine. In 1798 he married Mademoiselle Clary, sister-in-law of Joseph Bonaparte. The following year he became for a short time Minister of War, and on the establishment of the Empire was raised to the dignity of Marshal of France, and the title of Prince of Ponte-Corvo. On the death of the Prince of Holstein-Augustenburg, the heir apparency to the Swedish crown was offered to the Prince of Ponte-Corvo, who accepted with the consent of the Emperor, went to Sweden, abjured Catholicism, and took the title of Prince Charles John. In the maintenance of the interests of Sweden, a serious rupture occurred between him and Bonaparte, followed by his accession, in 1812, to the coalition of sovereigns against Napoleon. At the battle of Leipsic, he contributed effectually to the victory of the allies. At the close of the war strenuous attempts were made by the Emperor of Austria and other sovereigns to restore the family of Gustavus IV. to the crown; but Bernadotte, retaining his position as Crown Prince, became King of Sweden on the death of Charles XIII., in 1818, under the title of Charles XIV. During his reign agriculture and commerce made great advances, and many important public works were completed. He died March 8, 1844, and was succeeded by his son Oscar.

Bernard, Charles de (properly BERNARD DU GRAIL DE LA VILLETTE), a French novelist, born in Besancon,

Feb. 25, 1804; died in Neuilly, March 6, 1850.

Bernard, Claude, a French physiologist, born in 1813; died in Paris in 1878.

Bernard, Sir Francis, an English administrator, born in Nettleham, in 1714; was Governor of New Jersey in 1758–1760, and of Massachusetts Bay in 1760–1769. He did a great deal toward precipitating the Revolution by his aggressive attempts to strengthen the royal authority. He was finally recalled on account of the unpopularity resultant on his bringing troops into Boston. He died in Aylesbury, England, June 16, 1779.

Bernard, Mountague, an English lawyer, born in Gloucestershire, Jan. 28, 1820. In 1872 he assisted Sir Roundell Palmer in preparing the British case for the Geneva Arbitration Tribunal. He died at Overross, Sept. 2, 1882.

Bernard, Great St., a celebrated pass of the Pennine Alps in Switzerland in the canton Valais, on the mountain road leading from Martigny to Aosta in Piedmont.

The dogs kept at St. Bernard to assist the brethren in their humane labors are well known. In the midst of tempests and snowstorms the monks, accompanied by some of these dogs, set out for the purpose of tracking those who have lost their way.

Bernard, Little St., a mountain of Italy, belonging to what are called the Graian Alps, about 10 miles S. of Mont Blanc. The pass across it is one of the easiest in the Alps, and is supposed by many to be that which Hannibal used. The Hospice at the summit of the pass has an elevation of 7,192 feet.

Bernard, St., Abbot of Clairvaux, was born of a noble family in Burgundy, in 1091. He was educated at the University of Paris. At the age of 23 he entered the recently founded monastery of Citeaux, accompanied by his brothers and 20 of his companions. He observed the strictest rules of the Order, and so distinguished himself by his ability and acquirements that he was chosen to lead the colony to Clairvaux, and was made abbot of the new house; an office which he filled till his death. In 1128 he prepared the statutes for the Order of Knights Templar. He was founder of 160 monasteries; and was the chief promoter of the second crusade. St. Bernard died at Clairvaux in 1153, and was canonized in 1174.

Bernard, Simon, a French engineer, born in Dole, April 28, 1779. He served under Napoleon as his aide-de-camp; was wounded at the battle of Leipsic; superintended the defense of Torgau, and was present at Waterloo. In 1816 he came to the United States; was commissioned a Brigadier-General of Engineers; and planned an elaborate system of seacoast defenses, the most important of the works built by him being Fort Monroe. In 1831 he returned to France; was made aide-de-camp to Louis Philippe, and designed the fortifications of Paris. In 1834 he was appointed Minister of War. He died in Paris, Nov. 5, 1839.

Bernard, William Bayle, an Anglo-American dramatist, born in Boston, Mass., Nov. 27, 1807. His first work was a nautical drama called the "Pilot." This proved successful and encouraged him to pursue a literary career. He wrote in all 114 plays, of which the best known is "Rip Van Winkle." He died in Brighton, England, Aug. 5, 1875.

Bernard Dog, St. The St. Bernard, as bred to modern ideas, is an immense red or orange colored dog, marked with white on muzzle, neck, chest, feet, and tip of tail. Many of the finest St. Bernards measure over 30 inches high at the shoulder and weigh over 150 pounds.

Bernard of Chartres, surnamed SYLVESTRIS, a writer of the 12th century.

Bernard of Treviso, an Italian alchemist, born in Padua in 1406; died in 1490.

Bernardine, the name given to the Cistercian monks, a branch of the old Benedictines, from St. Bernard, who, entering the order, gave it such an impulse that he was considered its second founder.

Bernardino, St., of Siena, born in 1380 at Massa-Carrara, of a distinguished family, made himself famous by his rigid restoration of their primitive rule among the degenerate order of the Franciscans, of which he be-

came a member in 1404. He died in 1444, and was canonized in 1450.

Bernhard, Karl, pseudonym of NICOLAI DE SAINT AUBAIN, a celebrated Danish novelist, born in Copenhagen, Nov. 18, 1798; died in Copenhagen, Nov. 25, 1865.

Bernhardi, Theodor von, a German historian and diplomat, born in Berlin, Nov. 6, 1802; died at Kunersdorf, Silesia, Feb. 12, 1887.

Bernhardt, Rosine Sarah, a French actress, born in Paris, Oct. 22, 1844. At an early age her Jewish parents placed her in a convent at Versailles. When 14 years old she left the convent, and entered the Paris Conservatoire, and there studied tragedy and comedy. In 1862 she made her debut at the Theatre Francais, in Racine's "Iphigene" and Scribe's "Valerie," but, not achieving a success, she retired for a time from the stage. Her first great success was as Marie de Neuberg, in Victor Hugo's "Ruy Blas," in January, 1867. Becoming very popular by her representations, notably in "Andromaque" and "La Sphinx," she was recalled to the Francais, and was soon recognized as the foremost actress in French tragedy. In 1879 she visited London with the company of the Comedie Francaise and was warmly received; in 1880, 1887, 1891, 1896, 1900, and 1910–1911 made successful tours in the United States, and between and after these dates visited Switzerland, Holland, South America, Italy, Algeria, Australia, etc. In 1899 she appeared in a new rendering of "Hamlet" in Paris, and scored a most flattering triumph. She has also done considerable work in painting, sculpture, and literature.

Bernhardy, Gottfried, a German classical philologist, born in Landsberg-on-the-Warthe, March 20, 1800; died in Halle, May 14, 1875.

Bernier, Francois, a French physician and traveler, born in Angers about 1625; set out on his travels in 1654, and visited Egypt, Palestine, and India, where he remained for 12 years as physician to the Great Mogul Emperor Aurungzebe. He died in Paris in 1688.

Bernina, a mountain of the Rhætian Alps, 13,290 feet high, in the Swiss canton of Grisons, with remarkable and extensive glaciers. Its summit was first attained in 1850.

Bernini, Giovanni Lorenzo (known also as IL CAVALIERE BERNINI), an Italian painter, born in Naples in 1598, and obtained, among his contemporaries, the reputation of being the modern Michael Angelo, on account of his success as painter, statuary, and architect. He died in 1680.

Bernouilli, or **Bernoulli,** a family which produced eight distinguished men of science. The family fled from Antwerp during the Alva administration, going first to Frankfort, and afterward to Basel. JOHN, born in Basel, in 1667, wrote with his brother, James, a treatise on the differential calculus; developed the integral calculus, and discovered, indepently of Leibnitz, the exponential calculus. He died in 1748.

Bernstorff, Andreas Peter, Count, born in 1735; in the service of the King of Denmark. He was appointed Prime Minister in 1769, when he ceded to Russia the Gootorp part of Holstein in exchange for Oldenburg and Delmenhorst. He died in 1797.

Berquin, Louis de, the first Protestant martyr in France, born in 1490. He was a gentleman of Artois, a friend of Badius, the savant. When, in 1523, the police began to seize Luther's works, with a view to suppressing Protestantism, they found among Berquin's books some manuscripts of his own writing that were pronounced heretical. As he refused to retract, he was thrown into prison. Francis I., whose counselor he was, obtained for him his freedom. His fixed opinions and intrepid nature, however, having thrown him into prison three times, caused him to be condemned to death. He was burned alive in Paris, April 17, 1529.

Berrian, William, an American Episcopal clergyman and writer, born in New York in 1787; was rector of Trinity Church, New York (1830–1862). He died in New York city, Nov. 7, 1862.

Berrien, John McPherson, an American statesman, born in New Jersey, Aug. 23, 1781; graduated at Princeton College in 1796, and was admitted to the bar in Georgia when 18

years old. He represented Georgia in the United States Senate in 1825–1829 and 1840–1852; was Attorney-General of the United States in 1829–1831, and a delegate to the Baltimore Convention in 1844. In 1829 he delivered a speech so clear and impressive against certain measures before Congress that the title of "American Cicero" was given him. He died in Savannah, Ga., Jan. 1, 1856.

Berro, Bernardo Prudencio, an Uruguayan statesman, born in Montevideo about 1800. He was President of the republic in 1860–1864. The revolution of Flores was successful soon after the expiration of his term. In 1868 he stirred up a revolt against Flores, was imprisoned, and soon afterward shot through a window in his cell, in April, 1868.

Berry, a succulent fruit, in which the seeds are immersed in a pulpy mass inclosed by a thin skin. Popularly it is applied to fruits like the strawberry, bearing external seeds on a pulpy receptacle, but not strictly berries.

Berryer, Antoine Pierre, a French advocate and statesman, born in Paris in 1790. In 1814 he proclaimed at Rennes the deposition of Napoleon, and remained till his death an avowed Legitimist. In 1840 he was one of the counsel for the defense of Louis Napoleon after the Boulogne fiasco. He gained additional reputation in 1858 by his defense of Montalembert, and was counsel for the Patterson-Bonapartes in the suit for the recognition of the Baltimore marriage. He died in 1868.

Bersaglieri, a corps of riflemen or sharpshooters, introduced into the Sardinian army by Gen. Della Marmora, about 1849. They took part in the Russian War and also assisted at the battle of the Tchernaya, Aug. 16, 1855. They were likewise employed in the Italian Wars of 1859 and 1866.

Bersezio, Vittorio, an Italian novelist and playwright, born at Peveragno, Piedmont, in 1830.

Bert, Paul, a French statesman and physiologist, born in Auxerre, Oct. 17, 1833. While engaged in public life, M. Bert still pursued with ardor his scientific investigations, attracting world-wide attention by his experiments in vivisection. Appointed by the French Ministry to the governorship of Tonquin and Annam, he went out there in 1886, but died Nov. 11, of the same year. The anti-religious views of M. Bert excited much controversy.

Berthelot, Pierre Eugene Marcellin, a French chemist, born in Paris, Oct. 25, 1827. In 1878 he became president of the committee on explosives, which introduced smokeless powder. His labors also led to the discovery of dyes extracted from coal-tar. He died March 18, 1907.

Berthier, Alexander, Prince of Neufchatel and Wagram, Marshal, Vice-Constable of France, etc.; born in Versailles, Nov. 20, 1753; killed himself, June 1, 1815.

Berthold of Ratisbon, a celebrated German preacher and Franciscan monk; ranked as the most powerful preacher of his time in the German world. It is said that as many as 60,000 people flocked to hear him in the open fields. His sermons have been preserved. He died in 1272.

Bertillon, Alphonse, a French anthropologist, born in Paris in 1853; is widely noted as the founder of a system of identification of criminals. In 1880, while Chief of the Bureau of Identification in the Prefecture of Police, he established his system of measurements which has given marvelous results for their precision. The system has since been adopted by the police authorities of the large cities of Europe and the United States. He was one of the expert witnesses in handwriting in the trial of Capt. Dreyfus in 1899, and soon after its close was removed from his office. He was author of numerous works bearing upon his system, including "Identification anthropometrique" (1893).

Bertillon System, a system of identification of criminals, introduced into France by Alphonse Bertillon. The system depends upon accurate measurements of various portions of the human body, especially the bones, which in adults never change. The parts measured are the head, ear, foot, middle finger, the extended forearm, height, breadth, and the trunk. These measurements are placed upon a card, and together with photographs of the

bodily features, take the place of the old portraits in the rogues' gallery.

Bertrand, Eugene, a French operatic manager, born in 1835; died in Paris, Jan. 21, 1900.

Bertrand Henri G., Count, a French military officer, born in Chateauroux in 1773, and early entered the armies of the Revolution as engineer. He accompanied the expedition to Egypt, and directed the fortification of Alexandria. He distinguished himself at Austerlitz and became Napoleon's adjutant; and, after the battle of Aspern, in 1809, for his share in saving the French army by bridges, he was created count and governor of Illyria. After serving with credit in the subsequent campaigns, he retired with the Emperor to Elba, was his confidant in carrying out his return to France, and finally shared his banishment to St. Helena. On Napoleon's death, Bertrand returned to France, where, though sentence of death had been pronounced upon him — a sentence which Louis XVIII. had wisely recalled — he was restored to all his dignities, and, in 1830, appointed Commandant of the Polytechnic School. In 1840, he formed part of the expedition which brought back the remains of Napoleon to France. He died in Chateauroux, Jan. 31, 1844.

Berwick, or more fully, **Berwick-on-Tweed,** a seaport town of England, formerly a Parliamentary borough and (with small adjoining district) a county by itself, but now incorporated with Northumberland, and giving name to a Parliamentary division of the county.

Beryl, a colorless, yellowish, bluish or less brilliant green variety of emerald, the prevailing hue being green of various shades, but always pale, the want of color being due to absence of chromium, which gives to the emerald its deep, rich green.

Beryllium, a rare white malleable metal, the same as glucinum.

Berzelius, Johann Jakob, Baron, a Swedish chemist, born in Ostgothland, Aug. 29, 1779. To him preeminently belongs the honor of applying the great principles which had been established by Dalton, Davy, Gay-Lussac, and himself, in organic chemistry, to the study of the laws which regulate the combinations forming the structures of the animal and vegetable kingdoms; and of thus opening the way for the discoveries of Mulder, Liebig, Dumas, and others. To him, chemistry is indebted for the discovery of several new elementary bodies, more especially selenium, thorium, and cerium; and to his skill as a manipulator may be traced many of the analytical processes at present in use. He died Aug. 7, 1848. All the scientific societies of the world enrolled his name among their members.

Berzelium, (See CAROLINIUM).

Besancon, a city in the N. E. of France, the capital of the Department of Doubs, on the river Doubs. It contains Roman remains, including an amphitheater, aqueduct and triumphal arch of Mars, as well as a cathedral of diversified architectural style, and the Renaissance palace of Cardinal Granwelle, who was born in Besancon. Victor Hugo was also a native of Besancon. Watch-making is the principal industry. Pop. (1896) 57,556.

Besant, Annie, an English theosophist and author, born in London, Oct. 1, 1847; was married in 1867 to the Rev. Frank Besant, brother of Sir Walter Besant, but was legally separated from him in 1873. In 1889 she joined the Theosophical Society, and has since been active in theosophical propaganda in Great Britain and the United States.

Besant, Sir Walter, an English novelist; **born in** Portsmouth, England, Aug. 14, 1836; was educated in London and at Christ's College, Cambridge, where he graduated with mathematical honors. He was for a time professor in the Royal College Mauritius. On May 24, 1895, he was knighted. He died in London, June 9, 1901.

Besika Bay, a bay on the N. W. coast of Asia Minor, opposite Tenedos, to the S. of the entrance of the Dardanelles. The English fleet was stationed here during crises in the Eastern question in 1853–1854 and 1877–1878.

Bessarion, John, a Greek scholar, born in Trebizond in 1395, one of the most eminent restorers of learning in the 15th century, and founder of the

library of St. Mark at Venice; was a monk of the Order of St. Basil. He died in Ravenna, Nov. 19, 1472.

Bessel, Friedrich Wilhelm, astronomer, born in Minden, Prussia, July 22, 1784. He died in Konigsberg, March 17, 1846.

Bessels, Emil, a German naturalist, born in Heidelberg, June 2, 1847; died in Stuttgart, March 30, 1888.

Bessemer, Sir Henry, an English inventor, born in Charlton, Hertfordshire, Jan. 19, 1813; began modeling and designing patterns when 18 years old; chose engineering as a profession, and, after long and costly experiments, announced, in 1856, his discovery of a means of rapidly and cheaply converting pig iron into steel, by blowing a blast of air through the iron when in a state of fusion. For this discovery the Institution of Civil Engineers awarded him the Gold Telford Medal, and several foreign governments honored him with valuable tokens. In the United States appreciation of his great discovery took the form of creating industrial cities and towns under his name. He was elected President of the Iron and Steel Institute of Great Britain in 1871; knighted by the Queen in 1879, and received the freedom of the city of London in 1880. He died in London, March 15, 1898.

Bessemer Steel, steel made from pig iron, from which practically all the carbon, etc., has been removed by exposing the molten mass to a current of air.

Bessey, Charles E., an American botanist, born in Wilton, O., May 21, 1845; educated at Harvard University; Professor of Botany in the Iowa Agricultural College in 1870–1884; Professor of Botany in the University of Nebraska since 1884. He was also President of the Society for the Promotion of Agricultural Science in 1883–1885; President of the Nebraska Academy of Sciences in 1891; acting Chancellor of the University of Nebraska in 1888–1891; Fellow of the American Association for the Advancement of Science.

Bessieres, Jean Baptiste, Duke of Istria, a marshal of the French Empire, born of poor parents at Preissac, Aug 6, 1768. At the accession of Napoleon (1804) to the throne, he became Marshal of France. He showed his usual conspicuous courage at Austerlitz, Jena, Eylau, and Friedland, and, raised to the rank of Duke of Istria, commanded in Spain in 1808–1809. In the Russian campaign he led the cavalry of the Guard, and did much by his sleepless courage and presence of mind to save the wreck of the army in the disastrous retreat from Moscow. On the morning of the battle of Lutzen (May 1, 1813), he fell mortally wounded by a cannon ball.

Bestiary, the name given to a class of written books of great popularity in the Middle Ages, describing all the animals of creation, real or fabled, composed partly in prose, partly in verse, and generally illustrated by drawings.

Betauzos, Juan Jose de, a Spanish historian and adventurer of the 16th century; was author of an account of the conquest of Peru by Pizarro.

Betel, or **Betle,** the English name of the piper betle, a shrubby plant with evergreen leaves, belonging to the typical genus of the pepperworts. It is extensively cultivated in the East Indies. Its leaf is used as a wrapper to inclose a few slices of the areca palm nut with a little shell lime. The Southern Asiatics are perpetually chewing it to sweeten the breath, to strengthen the stomach, and, if hunger be present, to deaden its cravings.

Betham-Edwards, Matilda, an English author, born in Suffolk, in 1836, was educated privately; has published numerous works in poetry, fiction, and on French rural life. She was made an officer of public instruction in France in 1891.

Bethania, or **Bethany,** a town in Syria, about 2 miles S. E. of Jerusalem, on the way to Jericho. It is now a small place, inhabited by a few Turkish families, by whom it is called Lazari, in memory of Lazarus, who dwelt here, and who was here raised from the dead. The inhabitants show the pretended sites of the houses of Lazarus, of Martha, of Simon the leper, and of Mary Magdalene. The alleged tomb of Lazarus, a large excavation in the rock, is also shown.

The situation of Bethania is extremely picturesque.

Bethany College, a co-educational institution in Linsborg, Kan.; organized in 1881; under the auspices of the Lutheran Church.

Bethany College, a co-educational institution in Bethany, W. Va.; organized in 1841; under the auspices of the Church of the Disciples.

Bethel, a town of Palestine, about 10 miles from Jerusalem, now called Beitin, or Beiteen. The patriarch Jacob here had a vision of angels, in commemoration of which he built an altar. Interesting ruins abound in the vicinity.

Bethel College, an educational institution in Russellville, Ky.; organized in 1854; under the auspices of the Baptist Church.

Bethesda, a pool in Jerusalem, near St. Stephen's Gate, and the Temple of Omar.

Bethlehem, the birthplace of Jesus Christ and of King David, and the Ephratah of the history of Jacob; is now a small, unwalled village of white stone houses, in the midst of a most interesting country, 6 miles S. of Jerusalem. The population, about 3,000, is wholly Christian — Latin, Greek, and Armenian. The Convent of the Nativity, a large, square building, resembling a fortress, was built by the Empress Helena, in 327 A. D., but destroyed by the Moslems in 1236, and, it is supposed, restored by the crusaders. Within it is the Church of the Nativity, which is subdivided among the Latins, Greeks, and Armenians, for devotional purposes. The Bethlehemites chiefly gain their subsistence by the manufacture and sale of crucifixes, beads, boxes, shells, etc., of mother-of-pearl and olive wood.

Bethlehem, a borough in Northampton and Lehigh counties, Pa.; on the Lehigh river and canal and several railroads; 57 miles N. of Philadelphia; since 1904 includes the former borough of West Bethlehem; contains a Moravian theological seminary and other educational institutions, and has silk mills, rolling mills, machine shops, and brass and spelter works. It was founded in 1741 by Moravians under Count Zinzendorf. Pop. (1910) 12,837.

Bethsaida, a village on the W. shore of the Lake of Galilee, the birthplace of Peter and Andrew and Philip.

Bethune, Charles James Stewart, a Canadian educator, born in West Flamboro, Ont., Aug. 11, 1838. In 1892 he was elected a Fellow of the Royal Society of Canada.

Bethune, George Washington, an American Dutch Reformed clergyman and poet, born in New York, March 18, 1805. He died in Florence, Italy, April 27, 1862.

Betterton, Thomas, English actor, born in 1635; excelled in Shakespeare's characters of Hamlet, Othello, Brutus, and Hotspur, and was the means of introducing shifting scenes instead of tapestry upon the English stage. Mrs. Sanderson, whom he married in 1670, was also an actress of repute. He died in 1710, and was buried in Westminster Abbey.

Betting, or **Wagering,** a contract by which two or more parties agree that a certain sum of money or other thing shall be paid or delivered to one of them on the happening or not happening of an uncertain event. At common law, wagers are not per se, void, but statutes prohibiting betting have been passed by many of the States.

Betts, Craven Langstrath, an American poet and story writer, born in New Brunswick, in 1853.

Betty, William Henry West, better known as the YOUNG ROSCIUS, an English actor, born at Shrewsbury in 1791; died in London, Aug. 24, 1874.

Beust, Friedrich Ferdinand, Count von, an Austrian statesman, born in Dresden, Jan. 13, 1809. He entered the service of Austria as Minister of Foreign Affairs, became President of the Ministry, Imperial Chancellor, and, in 1868, was created Count. In 1871–1878 he was Ambassador in London, in 1878–1882, in Paris. He died near Vienna, Oct. 24, 1886.

Beveridge, Albert Jeremiah, an American lawyer, born in Highland county, O., Oct. 6, 1862; was brought up on a farm; graduated at De Pauw University; and engaged in law practice in Indianapolis. He entered political life in 1883, and soon won a

reputation as an effective orator. On Jan. 17, 1899, was elected U. S. Senator for Indiana, as a Republican.

Beverly, a city and popular summer-resort in Essex county, Mass.; on the North Shore and the Boston & Maine railroad; 18 miles N. E. of Boston; is the seat of the New England Industrial School for Deaf Mutes; and under President Taft was the "summer capital" of the United States. Pop. (1910) 18,650.

Bewick, Thomas, an English wood engraver, born in Northumberland in 1753. He died in 1828.

Beyle, Marie-Henri, better known under the pseudonym of "Stendhal," a French novelist and critic, born in Grenoble, Jan. 23, 1783; died in Paris, March 23, 1842.

Beyrout, or **Beirut,** a flourishing commercial town, situated in a most picturesque position on the coast of Syria, and at the foot of Lebanon, 55 miles from Damascus, and 147 from Jerusalem. It is the chief seaport, market-town, and emporium of all the trade with the shores of Syria, Palestine, and Cilicia, with a regular service of Egyptian, French, and British steamers. The American vice-consul at this place was shot at in September, 1903, and President Roosevelt ordered American war-vessels to go there.

Bezants, or **Byzantines,** coins of the old Byzantine empire.

Beza, or **Beze, Theodore de,** a French Protestant theologian and reformer, born in Vezelai, in 1519. In 1558, he was sent to ask the intercession of several German princes in behalf of the persecuted Huguenots in France. The next year he settled at Geneva, and was thenceforth the associate of Calvin till his death, and his successor as Professor of Theology and head of the Protestant party. His energy and activity of mind, like his bodily health, continued unabated till he was nearly 80 years of age, and he only ceased preaching in 1600. He died in 1605.

Bezique, or **Besique,** a game of cards of French origin.

Bhagavatgita, or **Bhagavadgita,** in Sanskrit literature, a song relating a discourse between Krishna and his pupil Arjun in the midst of a battle. Schlegel considers it the most beautiful and perhaps the only true philosophical poem in the whole range of known literature. Its teaching is pantheistic. It consists of 18 lectures. It has been translated into many languages.

Bhamo, a town of Burma on the Upper Irrawaddy, about 40 miles from the Chinese frontier. It is the starting-point of caravans to Yunnan.

Bheels, or **Bhils,** a Dravidic race inhabiting the Vindhya, Satpura, and Satmala Hills, a relic of the Indian aborigines driven from the plains by the Aryan Rajputs. Their total numbers are about 750,000.

Bhutan, an independent State in the Eastern Himalayas, with an area of about 16,800 square miles. Pop. over 30,000. The Bhutanese are a backward race, governed by a Dharm Rajah, regarded as an incarnation of deity, and by a Deb Rajah, with a council of eight. They are nominally Buddhists.

Biafra, Bight of, a large bay on the W. coast of Africa, at the head of the Gulf of Guinea, between Capes Formosa and Lopez.

Bianchini, Francesco, an Italian astronomer, born in Verona, in 1662. He died in 1729.

Biard, Auguste Francois, a French genre painter, born in 1798; died in 1882.

Biarritz, a watering-place and noted winter resort in France; on the Bay of Biscay in the Department of the Basses-Pyrenees; 4 miles S. W. of Bayonne. It was the royal summer residence during the Second Empire.

Biart, Lucien, a French novelist, poet and writer of travels, born in Versailles, June 21, 1829. He published a number of novels, containing masterly descriptions of Mexican and South American nature and customs.

Bias, one of the seven sages of Greece; a native of Priene, in Ionia; celebrated for his practical knowledge and strict regard to justice. He flourished about 550 B. C., and died at a very advanced age.

Biberach, a town of Wurtemberg, delightfully situated on the Reiss, 23 miles S. S. W. of Ulm. It retains its old ramparts and towers, and in front of the theater is a monument to Wie-

land, who was born in the neighborhood.

Bible (French bible, with similar forms in other languages, from Greek biblia, books, from biblos, the inner bark of the papyrus, used for writing on, hence a book), the collection of Sacred Writings or Holy Scriptures of the Christians. The older and larger division of these writings is also received by the Jews as embodying their faith, and is called the Old Testament, or Scriptures of the Old Covenant, because the Jewish religion was represented as a compact or covenant between God and the Jews, and the Greek word for covenant signifies also last will or testament. The same figure was applied to the Christian religion, which was considered as an extension of the old covenant, or a covenant between God and the whole human race. The sacred writings peculiar to the Christians are, therefore, called the Scriptures of the New Covenant, or the New Testament. Protestants and Roman Catholics do not altogether agree as to the books that ought to be admitted into the canon or list of writings belonging to the Old Testament. A certain number of books classed by the former under the head of Apocrypha are called by the latter "deutero-canonical," as being admitted into the canon at a later date than the rest, but are held to be of equal authority.

The scriptures were, no doubt, originally written on skins or parchments rolled up into rolls or volumes.

The earliest and most famous version of the Old Testament is the Septuagint, or Greek translation, completed it is believed in the 2d century B. C. The Syriac version, called the Peshito, was made in the 2d century after Christ, and is celebrated for its fidelity. The famous Latin version of St. Jerome, known as the Vulgate, was finished in 405.

The New Testament, besides being originally written in Greek, also differs remarkably from the Old in this respect, that while the writings comprehended in the earlier collection range over a period of 1,000 years, those included in the latter were produced almost contemporaneously — most of them probably between A. D. 50 and A. D. 70. The collection consists of 27 writings, ascribed either to apostles or to persons intimately associated with them. Five of the works are in the form of historical narratives, four of which relate from different points of view the story of Christ's life, while the fifth describes the formation and extension of the Church by the ministry of the leading apostles. Twenty-one are epistolary. Thirteen of these bear the name of St. Paul as their author, nine being addressed to various Christian communities, three (I and II Timothy, and Titus) — called the pastoral epistles — to office-bearers in the Church, and one to a private individual (Philemon). The epistle to the Hebrews formerly ascribed to Paul is believed to have been written by Apollos. Seven other letters—one ascribed to James, two to Peter, three to John, and one to Jude — are often known as the catholic (that is, general) epistles, as having been intended for the use of Christians in general. The only remaining work is the Apocalypse or Revelation of St. John. Of these writings the epistles are the earliest in date and were written to various Christian communities to give advice in special circumstances, to explain points of doctrine, or to warn against mistaken beliefs. They are adapted to the special conditions and mental attitude of those to whom they were addressed; thus in the letters to the Corinthian Christians, who dwelt in Greece, various speculative questions are discussed. The first three Gospels, called the synoptic Gospels, were probably written in or near A. D. 70, that of Mark being perhaps the earliest. The fourth Gospel is of much later date (about A. D. 100), and has a markedly different character. It gives an account of Christ's life not so much from an objective and historical as from a subjective and personal point of view.

All the books of the New Testament have come down to us as originally written in the Greek language. The writers of the New Testament were all, or nearly all, Jews; and while employing the Greek language,

they exhibit many traces of their native idiom, so that their writings present more or less of a Hebraic coloring. The body, as has been well said, is Greek; the spirit is Hebrew. The first translation of the whole Bible into English was by Wycliffe and his coadjutors, who translated from the Latin and published their work in 1382. William Tyndale made a translation from the original tongues of the New Testament and part of the Old, which he printed at Worms in 1525. It was proscribed and burned in England, but copies were smuggled over and used in secret. The Pentateuch was published by Tyndale in 1530. He also translated some of the prophetical books. His translation was superior to all previous versions in purity, perspicuity, and accuracy, and it formed the basis of all subsequent translations.

Tyndale suffered martyrdom in 1536, but his work was taken up by Miles Coverdale. He and his coadjutors completed the translation and the whole Bible was issued in one large volume. In 1537 a new and revised edition was published. Another version appeared in 1560 known as the Genevan Bible, or more familiarly as the Breeches Bible, from its rendering of Genesis 3: 7. This, however, was not popular with the Church of England, and in 1568 a revision of Coverdale's version was made. This was known as the Bishop's Bible, because of the number of bishops who assisted in its production.

In the reign of James I. a demand was made for a new translation, and at the Hampton Court Conference (1604) the suggestion was made by Dr. Rainolds of Oxford, as spokesman of the Puritan representatives, and accepted by the king. The work was committed to 54 scholars, but only 47 took part in it. They were divided into six companies, who had their respective tasks assigned them and met apart. The revision was begun in 1607, and occupied three years. The whole work was revised by 12 of the translators, two out of each company, and a final revision was made by Dr. Myles Smith, the writer of the preface, and Dr. Bilson, Bishop of Winchester. The completed work was published in a folio volume in 1611. The translators were enjoined to follow the ordinary Bible read in the churches commonly called the Bishops' Bible, and not to make alterations unless the meaning of the original could be more accurately conveyed. The general accuracy of this translation, which is usually known as the Authorized Version, and the purity of its style, so won the approbation of scholars and commended it to readers generally that from the time of its adoption it has superseded all other versions. Latterly, however, the advances made in Hebrew scholarship and biblical criticism gave rise to a general demand among those interested in the study of the Bible for a revision of the Authorized Version, and the task was undertaken by a number of the Anglican clergy, with the aid of associates from various other bodies. The work was set afoot by the convocation of Canterbury, which in 1870 appointed a committee to consider the question of revision. The committee in a few months reported favorably on the scheme, recommending that "the revision be so conducted as to comprise both marginal renderings and such emendations as it may be found necessary to insert in the text of the authorized version"; stating also "that in the above resolutions we do not contemplate any new translation of the Bible, or any alteration of the language, except where in the judgment of the most competent scholars such change is necessary." Two companies were soon formed — one for the Old, the other for the New Testament, including a number of scholars belonging to the United States — and the revised version of the New Testament was issued in 1881, while that of the Old Testament appeared in 1885. In accuracy at least the revised version is greatly superior to the old, on which it made 10,000 emendations. Of other translations than the English Authorized Version, that of Luther, which formed an epoch in the history of the German language, is the most remarkable. It was finished in 1534.

Bible Societies, societies formed for the distribution of the Bible or portions of it in various languages, either gratuitously or at a low rate. A clergyman of Wales, whom the

want of a Welsh Bible led to London, occasioned the establishment of the British and Foreign Bible Society, which was founded in London, March 7, 1804.

In the United States the great American Bible Society, formed in 1816, acts in concert with the auxiliary societies in all parts of the Union. The annual income of the society is now over $500,000, and its total issue has amounted to about 64,000,000 copies. These have been mostly in English, Spanish, and French, from the society's plates. The managers have occasionally purchased Bibles in Europe, and issued them to applicants, in German, Dutch, Welsh, Gaelic, Portuguese, modern Greek, and some other European languages. They have also furnished money to print translations into pagan languages, by American missionaries. It is the object of the society to supply every one who can read in the United States, before devoting much attention to distribution abroad. Yet Spanish America and Ceylon, Greece, and the Sandwich Islands have been furnished with Bibles by the society. Other American societies are the Pennsylvania Bible Society, the American and Foreign Bible Society, and the American Bible Union.

Bible Statistics, an interesting compilation, said to be the fruits of three years' labor by the indefatigable Dr. Horne, and given by him in his introduction to the study of the Scriptures. The basis is an old English Bible of the King James version.

Old Testament.— Number of books, 39; chapters, 929; verses, 23,214; words, 593,493; letters, 2,728,100.

New Testament.—Number of books, 27; chapters, 260; verses, 7,959; words, 181,253; letters, 838,380.

The Bible.— Total number of books, 66; chapters, 1,189; verses, 31,173; words, 773,746; letters, 3,566,480.

Apocrypha.— Number of books, 14; chapters, 184; verses, 6,031; words, 125,185.

Old Testament.— The middle book of the Old Testament is Proverbs. The middle chapter is Job xxix. The middle verse is II Chronicles xx, between verses 17 and 18. The shortest book is Obadiah. The shortest verse is I Chron. i: 25. The word "and" occurs 35,543 times. Ezra vii: 21 contains all the letters of our alphabet. The word "Selah" occurs 73 times and only in the poetical books. II Kings xix and Isaiah xxxvii are alike. The Book of Esther does not contain the words God or Lord. The last two verses of II Chronicles and the opening verses of the Book of Ezra are alike. Ezra ii and Nehemiah vii are alike. There are nearly 30 books mentioned, but not found in the Bible, consisting of civil records and other ancient writings now nearly all lost. About 26 of these are alluded to in the Old Testament.

New Testament.— The middle book is II Thessalonians. The middle chapter is between Romans xiii and xiv. The middle verse is Acts xvii: 17. The smallest book is II John. The smallest verse is John xi: 35. The word "and" occurs 10,684 times. The name Jesus occurs nearly 700 times in the Gospels and Acts, and in the Epistles less than 70 times. The name Christ alone occurs about 60 times in the Gospels and Acts, and about 240 times in the Epistles and Revelation. The term Jesus Christ occurs 5 times in the Gospels.

The Bible.— The middle book is Micah. The middle (and smallest) chapter is Psalm cxvii. The middle verse is Psalm cxviii: 8. The middle line is II Chronicles iv: 16; the largest book is that of the Psalms; the largest chapter is Psalm cxix. The word Jehovah (or Lord occurs 6,855 times. The word "and" occurs 46,227 times. The number of authors of the Bible is 50. The Bible was not until modern times divided into chapters and verses. The division of chapters has been attributed to Lanfrank, Archbishop of Canterbury, in the reign of William I.; but the real author of this division was Cardinal Hugo de Sancto-Caro, about 1236. The number of languages on earth is estimated at 3,000; the Bible or parts of it have been rendered into only about 180, or, languages and dialects together, 345. The first English translation complete of the Bible was by Wyclif in 1380. The first American edition was printed in Boston in 1752.

Bible, The Seven, the seven principal Bibles of the world are the Koran of the Mohammedans, the Eddas

of the Scandinavians, the Tripitikes of the Buddhists, the Five Kings of the Chinese, the three Vedas of the Hindus, the Zend Avesta and the Scriptures of the Christians. The Koran is, except the Eddas, the most recent of these seven Bibles and not older than the 7th century of our era. It is a compound of quotations from the Old and New Testaments, the Talmud and the gospel of St. Barnbas. The Eddas of the Scandinavians was first published in the 14th century. The Tripitikes of the Buddhists contain sublime morals and pure aspirations; their author lived and died in the 6th century before Christ.

The sacred writings of the Chinese are called the Five Kings, king meaning web of cloth or the warp that keeps the threads in their place. They contain the best sayings of the best sages on the ethico-political duties of life. These sayings cannot be traced to a period earlier than the 11th century before Christ. The three Vedas are the most ancient books of the Hindus, and it is the opinion of Max Muller, Wilson, Johnson and Whitney that they are not older than 11 centuries before Christ. The Zend Avesta of the Persians is the grandest of all these sacred books next to our Bible. Zoroaster, whose sayings it contains, was born in the 12th century before Christ. It is the sacred book of the fire worshippers.

Biblical Archæology, Society of, a society founded in London Dec. 9, 1870, "for the investigation of the archæology, history, arts, and chronology of ancient and modern Assyria, Palestine, Egypt, Arabia, and other Biblical lands; the promotion of the study of the antiquities of those countries, and the record of discoveries hereafter to be made in connection therewith."

Biblical Criticism, the science which deals with the text of the Bible. It is of two kinds: the Lower, or Textual Criticism, which is concerned with the accuracy and meaning of the passages; and the Higher or Literary Criticism, which seeks to discover the origin, date, authorship and relations of the various books, and to find out by internal evidence whether they are based on earlier documents and whether they have undergone revision since they were first composed.

Bibliography, the science or knowledge of books, their authorship, the dates of their first publication, and of the several editions they have gone through, with all other points requisite for literary history.

Bichloride of Gold, in chemistry and pharmacy, a substance which has risen into notoriety on account of the use made of it in the cure of dipsomania and chronic alcoholism. Its employment by Dr. Keeley produced a profound impression on the medical world.

Bicycle, a light-wheeled vehicle propelled by the rider, consisting of two wheels attached to a frame composed of tubing. Between these is arranged an axle, attached to lower part of frame, to which are affixed two pedals, one on either side; to this axle is attached a sprocket-wheel over which runs an endless chain connecting with a smaller sprocket on the rear wheel. There are also chainless bicycles, in which a system of cogs takes the place of the chain. The frames are distinguished as "diamond" and "drop;" the former used by men, the later by women cyclists. The rider sits upon a saddle attached to a seat-post affixed to the frame; he there steers the machine by means of a handle-bar, which turns the front wheel in any direction required. The momentum of the vehicle, and the proper use of the steering bar keeps it in an upright position.

Biddeford, a city in York county, Me.; on the Saco river and the Boston & Maine railroad; 15 miles S. W. of Portland; settled in 1630; has trolley to famous Old Orchard Beach (4 miles); has good water-power, cotton and woollen mills, and large trade in lumber and farm products. Pop. (1910) 17,079.

Biddle, Anthony Joseph Drexel, an American author and explorer; born in Philadelphia, Oct. 1, 1874.

Biddle, Arthur, an American lawyer, born in Philadelphia, Pa., Sept. 23, 1852; graduated at Yale in 1873; studied law and was admitted to the bar in 1878. Later he became a member of his father's firm and devoted much time to the study of certain branches, the results of which

were published in his works. He died in Atlantic City, N. J., March 8, 1897.

Biddle, Clement, the "Quaker Soldier," was born in Philadelphia, May 10, 1740. Although a strict Quaker, he identified himself with the Revolutionary cause even to the extent of going to war. He was present at the battles of Princeton, Brandywine, Germantown and Monmouth. He also shared the sufferings of Valley Forge. He resigned active service in 1780, but assisted in the making of the Federal Constitution in 1787. After that he was United States marshal of Pennsylvania. He died in Philadelphia, July 14, 1814.

Biddle, James, an American naval officer, born in Philadelphia, Pa., in 1793; entered the navy as a midshipman on the "Philadelphia" in 1800, and was on that frigate when she was wrecked on the Barbary coast in 1803. In the War of 1812 he served on the "Wasp" in the capture of the British sloop "Frolic," and was captain of the "Hornet" at the capture of the "Penguin." In 1845 he was given command of the East India Squadron and concluded the first treaty between the United States and China. He died in Philadelphia, Oct. 1, 1848.

Biddle, John, father of the modern Unitarians, born in Wotton-under-Edge, in Gloucestershire, in 1615; was educated at Oxford, and became master of a free school at Gloucester. He was repeatedly imprisoned for his anti-Trinitarian views. A general act of oblivion restored him to liberty, when he immediately disseminated his opinions both by preaching and by the publication of his "Twofold Scripture Catechism." He was again imprisoned, and the law of 1648 was to be put in operation against him when, to save his life, Cromwell banished him to St. Mary's Castle, Sicily, and assigned him 100 crowns annually. Here he remained three years, until the Protector liberated him in 1658. He then continued to preach his opinions till the death of Cromwell, and also after the Restoration, when he was committed to jail in 1662, and died a few months after.

Biddle, Nicholas, an American naval officer, born in Philadelphia, Pa., Sept. 10, 1750. After serving in the British navy and in the Arctic exploring expedition led by Captain Phipps, he returned to his native country at the outbreak of the Revolution, and was one of the five officers who received the rank of captain at the organization of the American navy in 1775. In command of the "Andrea Doria" he accompanied Fleet-Captain Hopkins to the Bahamas, and was present at the capture of New Providence. In 1777 he took command of the 32-gun ship "Randolph," the first American frigate ever launched. He met the British "Yarmouth," 64 guns, on March 7, 1778, and in the ensuing action the "Randolph" blew up, causing the death of her captain and about 315 others.

Biddle, Nicholas, an American financier, born in Philadelphia, Pa., Jan. 8, 1786; became secretary to John Armstrong, United States Minister to France, in 1804, and subsequently went to England as secretary to James Monroe, then United States Minister. He returned home in 1807, was elected to the Pennsylvania Legislature in 1810, and was appointed a director of the United States Bank in 1819. He became president of the bank in 1823 and managed it ably down to the expiration of its charter. He died in Philadelphia, Feb. 27, 1844.

Bidwell, John, an American politician, born in Chautauqua county, N. Y., Aug. 5, 1819. In 1831 his parents moved to Ashtabula county, O., where he acquired an academical education and taught school. He went to California in 1841; served in the Mexican War, reaching the rank of Major; was a member of the Constitutional Convention of 1849; and of the National Democratic Convention in Charleston, in 1860. In the Civil War he was brigadier-general of California militia. In 1864 he was elected to Congress as a Republican; in 1866 was a member of the Philadelphia Convention; in 1890 was the unsuccessful Prohibition candidate for Governor of California; and, in 1892, unsuccessful candidate of his party for the Presidency. He died in Chico, Cal., April 5, 1900.

Biela, Wilhelm, Baron von, an Austrian army officer, born in Roslau,

Prussia, March 19, 1782; known from his discovery of the comet bearing his name. He died in Venice, Feb. 18, 1856.

Biela's Comet, a comet which took its name from Major Biela of the Austrian army, who traced it out in 1826 and furnished such data regarding its movements as to convince the other astronomers of his day that he had a proprietary right to it. The same comet had been noticed on March 8, 1772, and again in 1805.

Biehlesohle, a stalactite cavern in the Harz Mountains, on the right bank of the Bode.

Biennial, a plant that requires two seasons to come to maturity.

Bienville, Jean Baptiste le Moyne, a French colonist, born in Montreal, Feb. 23, 1680. In 1698, with his brother, Iberville, he left France to found a colony at the mouth of the Mississippi. In 1700 he constructed a fort 54 miles above the mouth of the river, and in 1701, he succeeded to the direction of the colony, the seat of which became Mobile. In 1718 he received a commission as governor of Mississippi, and about this time founded the city of New Orleans. In 1724 he was summoned to France, and, on Aug. 9, 1726, was removed from office. In 1733 he was sent back to the colony as governor, with the rank of lieutenant-general. In 1743 he was again removed and returned to France, where he died in 1765.

Bierstadt, Albert, an American painter, born near Dusseldorf, Germany, Jan. 7, 1830; removed with his parents to Salem, Mass., in 1831; began to paint in oils in 1851; and in 1853 returned to Dusseldorf to study his art, spending a winter in Rome, traveling in Italy and Switzerland, and returning to the United States in 1857. In 1859 he accompanied General Lander's expedition to the Rocky Mountains, and spent several months in studies of mountain scenery. He was elected a member of the National Academy in 1860. In 1861 he finished his painting, "Laramie Peak," and in 1863 "View of the Rocky Mountains —Lander's Peak." These at once gave him a high reputation. He died in New York city, Feb. 18, 1902.

Bies-Bosch, a marshy sheet of water interspersed with islands, between the Dutch Provinces of North Brabant and South Holland, formed in 1421 by an inundation which destroyed 72 villages and 100,000 people.

Bigamy, in civil law, the act of marrying a second time, while the first husband or wife is still known to be living, and not divorced.

Big Bend Country, a volcanic plain near the center of the State of Washington. It covers 4,800 square miles, a third of it being gently rolling, brown loam prairie, suitable for farming, and the rest low hills and plateaus of bunch grass and sage brush, where livestock is ranged. The Columbia river curves round this region, flowing in a ravine 1,500 feet below the general level. It is traversed by several remarkable chasms, many miles long, and from a furlong to half a league wide, with sheer walls of black basalt 500 feet high.

Big Bethel, a village in Virginia, on the peninsula between the York and James rivers; the scene of a battle, June 10, 1861, between the Federal and Confederate forces. It resulted in the defeat of the Federal army.

Big Bone Lick, a salt spring, in Boone county, Ky., 11 miles S. of Burlington, where fossil remains of mastadons and other extinct fauna have been found.

Bigelow, Erastus Brigham, an American inventor, born in Boylston, Mass., April 2, 1814; became a leading manufacturer in Clinton, Mass.; invented looms for suspender weaving, for counterpanes, for coach lace and for carpets. He died in Boston, Dec. 6, 1879.

Bigelow, Frank Hagar, an American clergyman and meteorologist, born in Concord, Mass., Aug. 28, 1851; graduated at Harvard in 1873, and at the Episcopal Theological School at Cambridge, Mass.; was ordained in 1880, and became assistant rector at St. John's Church in Washington, D. C. In 1873–1876 and 1881–1883 he was Astronomer at the Cordoba Observatory, Argentine Republic in 1884–1889, Professor of Mathematics at Racine College, Wisconsin; and in 1893 became Professor

of Meteorology in the United States Weather Bureau.

Bigelow, Jacob, an American physician, born in Sudbury, Mass., Feb. 27, 1787; graduated at Harvard College in 1806, and began medical practice in Boston in 1810. He early became known as a botanist, and a number of plants were named for him by Sir J. E. Smith. He died in Boston, Jan. 10, 1879.

Bigelow, John, an American author, born in Malden, N. Y., Nov. 25, 1817; graduated at Union College, in 1835, and became first a lawyer and afterward a journalist. In 1845–1846 he was inspector of Sing Sing prison; in 1849–1861 one of the editors of the New York "Evening Post;" in 1861–1864, United States Consul-General at Paris; and in 1864–1867, Minister to France. He was Secretary of State of New York in 1875–1877. In his will Samuel J. Tilden appointed him his biographer and one of the three trustees of the bulk of his estate, set apart for the establishment of a public library in New York city.

Bigelow, John, Jr., an American military officer, born in New York, May 12, 1854; son of the preceding; was educated in Paris, Bonn, Berlin, Freiburg, and Providence, R. I.; graduated at the United States Military Academy in 1877; and was assigned to the 10th United States Cavalry. In 1887–1889 was adjutant-general of the militia in the District of Columbia; and in 1894–1898, Professor of Military Science at the Masachusetts Institute of Technology. During the war with Spain he was wounded in the attack on San Juan, Cuba, July 1, 1898.

Bigelow, Poultney, an American author, born in New York, Sept. 10, 1855; son of John Bigelow; graduated at Yale University and at the Columbia Law School in 1882, and was admitted to the bar. In 1875–1876 he took a journey around the world in a sailing ship, which was wrecked on the coast of Japan. He traveled in China, Africa, the West Indies, and Demerara. He has made canoe voyages on the principal waters of Europe, and was the first person to take a canoe through the Iron Gates of the Danube.

Bigelow, Timothy, an American military officer, born in Worcester, Mass., Aug. 12, 1739. On May 23, 1775, he led a company of minute men to Cambridge, and became a Major in Ward's regiment. He was under Arnold in the expedition to Quebec in 1775, and was there captured, remaining a prisoner till 1776. He became a Colonel in 1777, and assisted in the capture of Burgoyne. He also saw service at Valley Forge, Monmouth, West Point, and Yorktown. He died in Worcester, Mass., March 31, 1790.

Biggs, Asa, an American jurist, born in Williamston, N. C., Feb. 4, 1811; died in Norfolk, Va., March 6, 1878.

Big Horn, the wild sheep of the Rocky Mountains, named from the size of its horns, which are 3½ feet long, the animal itself being of the same height at the shoulder.

Big Horn Mountains, a range of mountains beginning near the center of Wyoming and running N. into Montana, containing heights of from 8,000 to 12,000 feet, and covering 7,500 square miles.

Big Horn River, a river of Montana and Wyoming; rises in the Rocky Mountains near Fremont's Peak, and flows N. E. into the Yellowstone. Along its course is some of the grandest mountain scenery in the world.

Bignonia, a genus of plants (that of the trumpet flowers). It has four perfect stamina, two long and two short. The species, which are numerous, are nearly all of an ornamental character, owing to their fine, large trumpet like, monopetalous corollas, colored red, blue, yellow, or white.

Big Trees, the sequoia gigantea, "big tree" of California, is found only on the W. slope of the Sierra, while the "redwood," belonging to the same genus, is confined to the Coast Range.

The Calaveras Grove of sequoia gigantea is the northernmost of the California groves of big trees, and it is the nearest to San Francisco. It is, however, comparatively seldom visited, as the Mariposa Grove is conveniently included in the usual route to the Yosemite. The Calaveras Grove covers an area 1,100 yards long and

70 yards wide, 4,750 feet above the sea, and contains about 100 trees of large size, besides many smaller ones. The tallest now standing is the Keystone State, which is 325 feet high and 45 feet in girth. The Mother of the Forest (denuded of its bark) is 315 feet high and has a girth of 61 feet, while the prostrate Father of the Forest measures 112 feet in circumference. Two other trees are over 300 feet high, and many exceed 250 feet. A house has been built over a stump with a diameter of 24 feet. The bark is sometimes 1½ feet in thickness. About 5 miles to the S. is the Stanislaus or South Grove, also containing many fine trees.

The Mariposa Grove of big trees, so called from its situation in Mariposa county, occupies a tract of land (6,500 feet above the sea) 4 square miles in area, reserved as a State Park, and consists of two distinct groves, one-half mile apart. The Lower Grove contains about 100 fine specimens of the sequoia gigantea, including the Grizzly Giant, the largest of all, with a circumference of 94 feet and a diameter of 31 feet. Its main limb, 200 feet from the ground, is 6½ feet in diameter. In ascending to the Upper Grove, which contains 365 big trees, the road passes through a tunnel, 10 feet high and 9½ feet wide (at the bottom), cut directly through the heart of a living sequoia, 27 feet in diameter. About 10 of the trees in the Mariposa Grove exceed 250 feet in height (highest 272 feet) and about 20 trees have a circumference of over 60 feet, three of these being over 90 feet. The Calaveras Grove has taller trees than any of the Mariposa Grove, but the latter has those of greater circumference. The wood of the sequoia gigantea, like that of the sequoia sempervirens, is easily worked, durable, and susceptible of a high polish. The sequoia sempervirens, or redwoods, sometimes reach a height of 300 feet.

The Santa Cruz Grove of big trees contains about a score of the genuine redwood with a diameter of 10 feet and upward. The largest is 23 feet across; one of the finest, named the Pioneer, has a girth of 70 feet. The redwood is one of the most prized varieties of lumber, and is shipped in great quantities to the Eastern States, where its ornamental qualities are fully appreciated.

Big Woods, a forest region in the S. E. part of Minnesota, extending S. from St. Cloud to Le Sueur, where it crosses the Minnesota, and sends branches toward Faribault and Mankato.

Bihe, a fruitful district of South Africa, E. of Benguela, and under Portuguese influence. Bihe is an important caravan center, as the only route across the continent passes through it. Area, 2,500 square miles. Pop. 95,000.

Bijapur, a decayed city in the Bombay Presidency, 160 miles S. E. of Poona. It was for centuries the capital of a powerful kingdom.

Bikaner, a native State of Rajputana, India, under the superintendence of a political agent and the governor-general's agent for Rajputana. Area, 23,173 square miles; pop. 831,955.

Bilaspur, a district in the chief commissionership of the Central Provinces of India. Area, 7,798 square miles; population, 1,017,327.

Bilbao, a town of Northern Spain, the capital of the Basque Province of Vizcaya, is situated in a mountain gorge on the Nervion, 8 miles S. E. of its mouth at Portugalete, and 63 miles N. by E. of Miranda by rail. Bilbao is well built. The place, which is purely a trading town, prides itself on being kept exceptionally clean. Pop. (1887) 51,314.

Bilberry, the name given to one or two species of a genus of plants belonging to the order cranberries. It is also called the whortleberry. It has angular stems, drooping, urceolate, almost waxy flowers, greenish with a red tinge, and black berries very pleasant to the taste. It grows in woods and healthy places. The great bilberry or bog whortleberry is an allied species with rounded stems, smaller flowers, and less agreeably tasted fruit. It grows in mountain bogs. It is called also the bleaberry or blaeberry. The name is also applied to the fruit of the species described.

Bilge, the breadth of a ship's bottom, or that part of her floor which approaches to a horizontal direction, on which she would rest if aground.

Bilguer, Paul Rudolf von, a Prussian military officer, born in Ludwigslust, Mecklenburg-Schwerin, Sept. 21, 1815. He was a lieutenant in the army, and was best known as an authority on chess. He died in Berlin, Sept. 10, 1840.

Biliary Calculus, a concretion which forms in the gall bladder or bile ducts; gall stone. It is generally composed of a peculiar crystalline fatty matter which has been called cholesterine.

Bill, a written or printed paper containing a statement of any particulars. In common use a tradesman's account, or a printed proclamation or advertisement, is thus called a bill. In legislation a bill is a draft of a proposed statute submitted to a legislative assembly for approval, but not yet enacted or passed and made law. When the bill has passed and received the necessary assent, it becomes an act.

Billaud-Varennes, Jacques N., the son of a French advocate at Rochelle, born in 1756; was educated at the same college as Fouche, and proved himself one of the most violent and sanguinary characters of the French Revolution. He bore a principal part in the murders and massacres which followed the destruction of the Bastille; voted immediate death to Louis XVI.; and officiated as president of the Convention on Oct. 18, 1793. He was afterward deported to Cayenne, and subsisted on a small pension allowed him by Petion. He died in Haiti, in 1819.

Bill Broker, a financial agent or money dealer, who discounts or negotiates bills of exchange, promissory notes, etc.

Bille, Steen Andersen, a Danish naval officer, born in Copenhagen, Dec. 5, 1797. He was a member of the expedition that went to South America in 1840, and had command of a scientific expedition round the world, in the corvette "Galatea," 1845–1847, of which he wrote an interesting account. He died in Copenhagen, May 7, 1883.

Billeting, a mode of feeding and lodging soldiers when they are not in camp or barracks by quartering them on the inhabitants of a town.

Billiards, a word probably derived from old French billiard, "a stick with a curved end;" in English, introduced as the name of a game, and made plural. The origin of billiards is uncertain.

Billings, John Shaw, an American surgeon and librarian, born in Switzerland county, Ind., April 12, 1839; was graduated at Miami University, in 1857, and the Ohio Medical College, in 1860; was demonstrator of anatomy in the last institution, in 1860–1861; entered the Union army as an Assistant Surgeon, in 1861; was promoted to Lieutenant-Colonel and Deputy Surgeon General, June 6, 1894; and was retired, Oct. 1, 1895. He was Professor of Hygiene in the University of Pennsylvania, in 1893–1896; and in the last year was appointed Director of the New York Public Library (Astor, Lenox and Tilden foundations). After the close of the war Dr. Billings took charg of the library in the Surgeon-General's office; reorganized the United States Marine Hospital Service; was Vice-President of the National Board of Health, in 1879–1882; and had charge of the compilation of vital and social statistics in the Eleventh Census.

Billings, William, an American composer, born in Boston, Oct. 7, 1746. One of the earliest of American composers, he is accredited with having introduced into New England a spirited style of church music. He died in Boston, Sept. 26, 1800.

Billingsgate, a word said to have been derived from Belinus Magnus, a somewhat mythic British prince, father of King Lud, about B. C. 400. More probably it came from some unknown person called Billing. It is applied to the celebrated London fish market existent at least as early as A. D. 979, made a free market in 1699, extended in 1849, rebuilt in 1852, and finally exposed to the rivalry of another market begun 1874, completed 1876. The word is also used to indicate foul, abusive language, such as is popularly supposed to be mutually employed by fish-wives who are unable to come to an amicable understanding as to the proper price of the fish about which they are negotiating.

Billion, in English notation 1,000,000 times 1,000,000, and in England it is written 1,000,000,000,000, i. e., with twice as many ciphers as 1,000,000 has. In the United States and in France the notation is different, the word billion signifying only 1,000 millions, written 1,000,000,000.

Billiton, a Dutch East Indian island between Banca and the S. W. of Borneo, of an irregular, sub-quadrangular form, about 40 miles across. It produces iron and tin, and exports sago, cocoanuts, pepper, tortoise shell, trepang, edible birds' nests, etc. It was ceded to the British in 1812 by the Sultan of Palembang, but in 1824 it was given up to the Dutch. Pop. (1890) 38,779.

Bilney, Thomas, an English martyr, born about 1495, probably at Norwich; studied at Trinity Hall, Cambridge, and was ordained in 1519. He was opposed to the formal "good works" of the Schoolmen, and denounced saint and relic worship; and to these mild Protestant views he converted Hugh Latimer and other young Cambridge men. In 1527 he was arraigned before Wolsey, and on recanting, absolved, but was confined in the Tower for over a year. Stung by remorse, after two years of suffering, he began to preach in the fields of Norfolk, but was soon apprehended and condemned; and although allowed to receive the sacraments of the Church from which he differed so little, he was burned as a heretic at Norwich, Aug. 19, 1531.

Biloxi, a city in Harrison co., Miss., the site of the first settlement made upon the Mississippi by white men, under the direction of Pierre Le Moyne d'Iberville, in 1699.

Biloxi Indians, the name given to on of the 10 groups of tribes into which the Siouan stock of North American Indians is divided.

Bimetallism, a term invented by Henry Cernuschi and currently used to denote a double monetary standard of value. A Bimetallic Congress was held at Brussels in April, 1896, representatives from Great Britain, France, the United States, Germany, Austria-Hungary, Belgium, Denmark, Holland, Rumania, and Russia being present. Ultimately the members constituted themselves a permanent committee, and expressed their opinion that a preliminary and immediate agreement might result from the re-establishment of bimetallism by the United States, the reopening of the Indian mints for the coinage of silver, the turning into silver of part of the metallic reserve of the Bank of England, and the absorption of a sufficient amount of silver by the various European States. The currency question in the United States influenced very materially the canvass for the Presidency in 1896. It appeared, as the year wore on, that free silver doctrines had captured a majority of the Democratic party, and at the Chicago Convention (July 7th) this majority adopted a platform demanding "the immediate restoration of the free and unlimited coinage of gold and silver at the present legal ratio of 16 to 1, without waiting for the aid or consent of any other nation," and that "the standard silver dollar shall be full legal tender equally with gold for all debts, public and private." WILLIAM JENNINGS BRYAN was nominated for the Presidency, but was decisively beaten by WILLIAM MCKINLEY, the Republican candidate, who favored a single gold standard, though he pledged himself to promote action by international agreement. To this end he sent commissioners to France, Great Britain and Germany, in 1897, and they, together with the French Ambassador, laid various proposals before the British Government, the chief of which were that the Indian mints should be reopened, and that Great, Britain should annually purchase $50,000,000 of silver. The Indian Government, however, declined to agree to the first suggestion, and no action resulted.

Binary Arithmetic, a method of notation invented by Leibnitz, but which appears to have been in use in China about 4,000 years ago. As the term binary implies, there are only two characters in this notation; these are 1 and 0. By it, our 1 is noted by 1, our 2 by 10, 3 by 11, 4 by 100, 5 by 101, 6 by 110, 7 by 111, 8 by 1,000, 9 by 1,001, 10 by 1,010, etc. The principle is that 0 multiplies by 2 in place of by 10, as on the common system.

Binary Engine, usually an engine having one cylinder, the piston being impelled by steam, which, having done its work there, is exhausted into another part of the apparatus, where it is allowed to communicate its unutilized heat to some liquid volatile at a lower temperature; the vapor of this second liquid, by its expansion in a second cylinder, yields additional useful force.

Bingen, a German town in the Province of Rhine-Hesse, Hesse; on the left bank of the Rhine, and the right of the Nahe. It is of considerable historical interest, containing the ruins of the Castle of Klopp, blown up by the French in 1689; the remains of a 12th century monastery; and the tower, which, tradition tells us, was the scene of the tormenting death of Hatto, Archbishop of Mainz, said to have been eaten alive by mice in the 9th century. A statue of "Germania," heroic size, has been erected here to commemorate the German victories of 1870–1871.

Bingham, Hiram, an American Congregational clergyman, born in Bennington, Vt., Oct. 30, 1789; was one of the first missionaries of the Congregational Church to be sent to the Sandwich Islands, where he acquired much influence with the natives. He died in New Haven, Conn., Nov. 11, 1869.

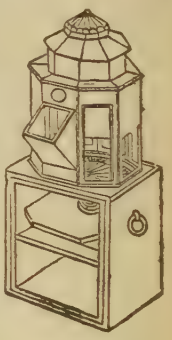
Bingham, John A., an American politician, born in Mercer, Pa., in 1815; became a lawyer in 1840; manager of the trial of President Johnson; minister to Japan in 1873–1885. He died, March 20, 1900.

Bingham, Kinsley S., an American legislator, born in Camillus, N. Y., Dec. 16, 1801; went to Michigan in 1833; was a member of Congress in 1849–1851; Governor in 1855–1859, and United States Senator in 1859–1861. He died, Oct. 5, 1861.

Binghamton, city and capital of Broome county, N. Y.; at junction of the Chenango and Susquehanna rivers and on several railroads; 50 miles E. of Elmira; has a Government Building, State Asylum for the Insane, Armory, and the Commercial Traveler's Home; is one of the largest cigar manufacturing cities in the country. Pop. (1910) 48,443.

Binley, Ward, the Garrick of the Dutch stage, was born at Rotterdam in 1755, of English parents. In 1799 he made his debut on the stage of Amsterdam, and from the first took his place at the head of his profession. He died at The Hague in 1818.

Binnacle, corrupted from bittacle, a wooden case or box in which the compass on board a ship is kept to protect it from injury.



BINNACLE.

Binney, Hibbert, a Canadian clergyman, born in Nova Scotia, Aug. 12, 1819; graduated at Oxford University in 1842. He became Bishop (Anglican) of Nova Scotia and Prince Edward Island, in 1851, this being the first instance of England founding a bishopric in her colonies. He attended the General Convention of the Protestant Episcopal Church held in Chicago in 1886. He died in 1887.

Binney, Horace, an American lawyer, born in Philadelphia, Jan. 4, 1780; was graduated at Harvard in 1797; and for many years was at the head of the Pennsylvania bar. He had a number of distinguished cases in his career; the most noted one being the defense of the city of Philadelphia against the executors of Stephen Girard. He was also a director in the United States Bank. He wrote many valuable papers, and was the author of "The Leaders of the Old Bar of Philadelphia," and "The Privilege of the Writ of Habeas Corpus Under the Constitution." He died in Philadelphia, Aug. 12, 1875.

Binocular, literally, having two eyes or pertaining to both eyes; an instrument having two tubes, each furnished above with an eye glass, so as to enable one to see with both eyes at once.

Binturong (bear-marten), a genus of carnivores in the civet section. Its resemblance to raccoons, beside

which it used to be placed, is entirely superficial. It is a slow, arboreal and nocturnal animal, partly vegetarian, indeed omnivorous, in its diet, with lank body, coarse, dark hair, long, tufted ears, and prehensile tail. There is but one species found in India, Malay, Sumatra and Java. It is easily tamed.

Binue, or **Benue,** the largest and most important tributary of Niger river, West Africa. It rises in the mountains N. of Adamawa and at Lokoja joins the Niger.

Biobio, the largest river of Chile, has a W. N. W. course of about 200 miles, from near the volcano of Antuco in the Andes to Consepcion on the Pacific Ocean. It is 2 miles wide at its mouth, and navigable for 100 miles. The river, since 1875, has given name to a province with an area of 4,158 square miles, and a pop. of 122,729.

Biograph, an apparatus that displays in rapid sequence a long series of photographs. It differs from the kinetoscope in that instead of showing small pictures through an enlarging lens by reflected light, it projects them on a screen where they are shown life size, or larger if desired.

Biology, a term first introduced by Treviranus of Bremen, adopted by the leading English speaking naturalists, and now having universal currency. It is used in two senses: (1) (In a more restricted sense): Physiology; (2) (In a wider sense): The science of life in its widest acceptation.

Biot, Jean Baptiste, French mathematician and physicist born at Paris 1774, and died there 1862. He became professor of physics in the College de France in 1800, in 1803 member of the Academy of Sciences, in 1804 was appointed to the Observatory of Paris, in 1806 was made member of the Bureau des Longitudes, in 1809 became also professor of physical astronomy in the University of Paris. In connection with the measurement of a degree of the meridian he visited Britain in 1817. He is especially celebrated as the discoverer of the circular polarization of light.

Biotite, a hexagonal and an optically uniaxial mineral, formerly called magnesia mica, hexagonal mica, and uniaxial mica; named after Jean Baptiste Biot.

Biped, a descriptive term, sometimes applied to man, but more frequently to birds.

Birch, the English name of the trees and shrubs belonging to the botanical genus betula. The common birch grows best in healthy soils and in Alpine districts. The drooping or weeping birch is a variety of this tree. It grows wild on the European continent and in Asia. The wood of the birch is tough and white. It is used for making brooms; it is often burned into charcoal; twigs are by many employed for purposes of castigation. The oil obtained from the white rind is used in tanning Russia leather. The Russians turn it to account also as a vermifuge and as a balsam in the cure of wounds. In some countries the bark of the birch is made into hats and cups. The canoe birch, of which the North American Indians constructed their portable canoes is so called for that reason.

Birch, Samuel, an English Orientalist, born in London, Nov. 3, 1813. He entered the British Museum as Assistant Keeper of Antiquities, in 1836, and ultimately became Keeper of the Egyptian and Assyrian Antiquities. He was especially famed for his capacity and skill in Egyptology, and was associated with Baron Bunsen in his work on Egypt, contributing the philological portions relating to hieroglyphics. He died Dec. 27, 1885.

Bird, Charles, an American military officer, born in Delaware, June 17, 1838. On March 2, 1867, he was brevetted First Lieutenant and Captain in the United States army for gallantry in the battle of Fredericksburg, Major for Spottsylvania, and Lieutenant-Colonel for Petersburg, Va. He was appointed a Second Lieutenant, 14th United States Infantry, in 1866; promoted to Major and Quartermaster in 1895; and commissioned a Colonel of United States Volunteers for the war with Spain, in 1898.

Bird, Frederic Mayer, an American clergyman, born in Philadelphia, June 28, 1838; graduated at the University of Pennsylvania in 1857, and

at the Union Theological Seminary in 1860. He was rector at Spotswood, N. J., in 1870–1874; Chaplain and Professor of Psychology, Christian Evidences and Rhetoric, at Lehigh University in 1881–1886; and acting chaplain there in 1893–1898. He was noted as a hymnologist, and as the collector of one of the most complete and valuable musical libraries in the United States. Died April 2, 1908.

Bird, Robert Montgomery, an American dramatist and novelist, born in Newcastle, Del., about 1803; died in Philadelphia, Jan. 22, 1854.

Bird-Catching Spider, a name applied to a gigantic spider, a native of Surinam and elsewhere which preys upon insects and small birds which it hunts for and pounces on.

Bird Lice, the common name given to the small parasites so frequently seen infesting birds.

Bird Lime, a substance whitish and limy in appearance; used, as its name imports, for capturing birds. It is, in general, manufactured from the bark of the holly.

Bird of Ill Omen, a phrase often applied to a person who is regarded as unlucky; one who is in the habit of bringing ill news. The ancients thought that some birds indicated good luck, and others evil.

Bird of Paradise, the English designation of a family of conirostral birds. They are closely allied to the crows, with which, indeed, they are united by some writers. They have magnificent plumage, especially the males, who can, moreover, elevate quite a canopy of plumes behind their necks.

Bird's Eye, the eye or eyes of a bird. In botany, the name of several plants with small, bright, usually blue, flowers.

Bird's-Eye Maple, curled maple, the wood of the sugar maple when full of little knotty spots, somewhat resembling birds' eyes, much used in cabinet work.

Bird's-Eye View, the representation of any scene as it would appear if seen from a considerable elevation right above.

Bird's Nest the nest of a bird. Those of the several species vary in their minor details so as to be in most cases distinguishable from each other. Edible birds' nests are nests built by the collocalia esculenta, and certain other species of swallows inhabiting Sumatra, Java, China, and some other parts of the East. The nests, a Chinese luxury, are formed of a mucilaginous substance, secreted by the birds from their salivary glands. See SALANGANE.

Birds of Passage, birds which migrate with the season from a colder to a warmer, or from a warmer to a colder climate.

Bireme, a Roman ship of war with two banks of oars. It was inferior in magnitude and strength to the trireme.

Biren, Ernest John, Duke of Courland, a Lithuanian of mean family, was born in 1690, and went in 1714 to St. Petersburg. Anna, Duchess Dowager of Courland, made him her favorite, and when she became Empress of Russia, intrusted to him the administration of the kingdom. On the death of the Empress he assumed the regency, by virtue of her will; but, in 1740, a conspiracy was formed against him by Marshal Munich, and he was condemned to death, which sentence was changed to banishment. Peter III. recalled him, and Catherine II. restored him to his former dignity. In 1763, Biren re-entered Mitau; and, profiting by the lessons of misfortune he had experienced, governed for the remainder of his life with mildness and justice. He died in 1772.

Birge, Edward Asahel, an American naturalist, born in Troy, N. Y., Sept. 7, 1851; graduated at Williams College in 1873; studied physiology and histology at Leipsic in 1880–1881. He became Instructor of Natural History in the University of Wisconsin in 1875; Professor of Zoology in 1879; and Dean of the College of Letters and Science in 1891. In 1894 he became Director of the Geological and Natural History Survey of Wisconsin.

Birkenfeld, a German principality belonging to Oldenburg, but surrounded by the Prussian Rhine Province, and intersected by the railway from Bingen to Saarbruck. It has an

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GAME BIRDS

area of nearly 200 square miles, with a population of (1890) 41,242; it has been connected with Oldenburg, 300 miles distant, since 1817. The capital, Birkenfeld, has a population of 2,500.

Birmingham, city and county-seat of Jefferson co., Ala.; at the junction of several trunk railroads; 96 miles N. W. of Montgomery, the State capital. Birmingham was incorporated as a city in 1871 with a population of less than 1,000. Its noticeable development began in 1880 and its remarkable progress may be said to date from 1890. In 1896 its two largest iron and steel corporations began selling pig iron for export at prices as satisfactory as those obtained on domestic orders; and since then it has had a larger development in the iron and steel industry than any city S. of Pittsburg. Pop. (1890) 26,178; (1900) 38,415; with suburbs, about 100,000; (1910) 132,685.

Birmingham, a city of England, on the Rea river near its confluence with the Tame, in the N. W. of Warwickshire, with suburbs extending into Staffordshire and Worcestershire; 112 miles N. W. of London, and 97 S. E. of Liverpool. It is the principal seat of the hardware manufacture in Great Britain. Birmingham is known to have existed in the reign of Alfred, in 872, and is mentioned in the Domesday Book (1086) by the name of Bermengeham. Another old name of the town is Bromwycham, a form still preserved very nearly in the popular local pronunciation, Brummagem. In 1903 the population was 533,039, an increase of 21.5 per cent. in a decade.

Birney, David Bell, an American military officer, born in Huntsville, Ala., May 29, 1825; son of James Gillespie Birney; studied law in Cincinnati, and, in 1848, began practice in Philadelphia. At the outbreak of the Civil War he entered the Union army. He distinguished himself in the battles of Yorktown, Williamsburg, Fredericksburg, Chancellorsville and Gettysburg. He died in Philadelphia, Pa., Oct. 18, 1864.

Birney, James Gillespie, an American statesman and publicist, born at Danville, Ky., Feb. 4, 1792. Though a Southern planter, he emancipated his slaves and became a prominent anti-slavery leader in the South, proprietor and editor of the anti-slavery journal, "The Philanthropist," etc. He was candidate of the Liberty Party for President in 1840 and 1844. He died at Perth Amboy, N. J., Nov. 25, 1857.

Birney, William, an American lawyer, born in Madison county, Ala., May 28, 1819; was educated in Paris; took part in the Revolution of 1848; and was appointed, on public competition, Professor of English Literature in the College at Bourges, France. In 1861 he entered the United States army as a private, and was promoted to brevet Major-General. In 1863–1865 he commanded a division. He died Aug. 14, 1907.

Biron, Armand de Gontault, Baron de, Marshal of France; born about 1524. He took a prominent part in the civil wars of Huguenot and Catholic, and served at the battles of Dreux, St. Denis and Moncontour. He negotiated the peace of St. Germain, and narrowly escaped at the massacre of St. Bartholomew. He was killed at the siege of Epernay, in 1592.

Biron, Charles de Gontault, Duc de, son of the preceding; born in 1562, was Admiral and Marshal of France, and is noted for the friendship which Henry IV. entertained for him, and for his treason toward that monarch. He early covered himself with glory at the battles of Arques and Ivry, and at the sieges of Paris and Rouen. The king loaded him with honors, saved his life at the fight of Fontaine Francaise, and made him ambassador to England. Biron entered into a conspiracy with Spain and Savoy against his sovereign; and the plot being revealed by Lafin, its instigator, he was beheaded in 1602.

Birth-Rate, the proportion of births to each 1,000 inhabitants. It is affected by economic and social conditions, war, famine, etc., the well-to-do having a lower rate than the average. In the United States the rate among foreign residents is 38.29; natives, 26.35; general average, 26.68. As a rule, about 105 boys are born to 100 girls.

Biru, the name of a warlike chief of South America, who flourished in the 16th century. In 1526, this name was given to the empire of the Incas, now known as Peru.

Biscay or **Vizcaya,** the most northerly of the Basque Provinces of Spain, is bounded N. by the Bay of Biscay, E. and S. by its sister provinces, Guipuzcoa and Alava, and W. by Santander. It has an area (very mountainous in the S.) of 849 square miles, and a population of 235,659. Chief town, Bilbao.

Biscay, Bay of, that portion of the Atlantic Ocean which sweeps in along the N. shores of the Spanish Peninsula in an almost straight line from Cape Ortegal to St. Jean de Luz, at the W. foot of the Pyrenees, and thence curves N. along the W. shores of France to the island of Ushant. Its extreme width is about 400 miles, and its length much about the same.

Biscuit, in general language, thin flour cake which has been baked in the oven until it is highly dried.

In pottery, articles molded and baked in an oven, preparatory to the glazing and burning. In the biscuit form, pottery is bibulous, but the glaze sinks into the pores and fuses in the kiln, forming a vitreous coating to the ware.

Bishop (a word derived from the Greek episcopos, that is, overseer, through the Saxon biscop), in the early Christian Church, the name of every person to whom the care of a Christian congregation was intrusted. Every congregation even in country districts had at least one such overseer. The word was accordingly used in the early history of the Church in exactly the same sense as presbyter or elder.

In the United States a bishop is the highest dignitary in the Greek, Catholic and Protestant Episcopal Churches. These bishops generally claim to be successors of the apostles. In the Methodist Episcopal and Protestant Episcopal Churches the bishop is elected by the Conference or Convention representing the respective churches of the diocese. In the Roman Catholic Church growth has been sufficient in the opinion of the ruling functionaries of that communion, to warrant the establishment of the greater hierarchy, and as a consequence the office and dignity of a bishop have become secondary — the highest places being occupied by a cardinal and numerous archbishops. A new bishop is appointed by the Pope from a list of three recommended by the clergy of a vacant diocese.

Bishop, Mrs. (Isabella L. Bird), traveler and author, born in Yorkshire, England, 1832, died 1904.

Bishop, John Remsen, an American educator; born in New Brunswick, N. J., Sept. 17, 1860; was graduated at Harvard University in 1882; taught Greek and English at St. Paul's School, Concord, N. H., in 1882–1883; was principal of the Princeton Preparatory School in 1884–1887; instructor of Greek and Latin at Hughes High School, Cincinnati, in 1888–1895; and became principal of the Walnut Hills High School, Cincinnati, in 1895.

Bishop, Louis Faugeres, an American physician, born in New Brunswick, N. J., March 14, 1864; graduated at Rutgers College in 1885, and at the New York College of Physicians and Surgeons in 1889. He was resident physician of St. Luke's Hospital, New York, in 1889–1892, and secretary of the New York Academy of Medicine and Chairman of its Section of Medicine in 1900.

Bishop, Seth Scott, an American physician, born in Fond du Lac., Wis., Feb. 7, 1852; graduated at the Northwestern University, in 1876. He began practice in Chicago, and has been a professor in various medical colleges.

Bishops Suffragan, a class of bishops in England appointed by the crown to take the places of the early bishops in partibus, who were assistants to the active bishops of English sees, and who held their warrant at the pleasure of the bishops to whom they were assigned. They were distinguished from suffragan bishops in the Church of England, as every regular bishop was a suffragan of his superior or metropolitan.

Bismarck, city, capital of the State of North Dakota, and county-seat of Burleigh co.; on the Missouri river, and the Northern Pacific rail-

road; 194 miles W. of Fargo. It contains the State Capitol (which cost over $500,000), the State Penitentiary, court-house, city hall, opera house, a State Hospital for the Insane, St. Paul Seminary, and an immense river warehouse. The river is here spanned by a bridge that cost $1,000,000. Pop. (1910) 5,443.

Bismarck, Herbert, Prince von, a German statesman, born in Berlin, Dec. 28, 1849; son of Otto Eduard Leopold, Prince von Bismarck-Schonhausen. He ranked high as a diplomat. He died Sept. 18, 1904.

Bismarck-Schonhausen, Otto Eduard Leopold, Prince von, a German statesman, born at Schonhausen in Brandenburg, of an old family, of which various members gained a reputation both as soldiers and statesmen, April 1, 1815. He received his university education at Gottingen, Berlin, and Griefswald. Before 1847 he was little heard of, but about that time he began to attract attention in the new Prussian Parliament as an Ultra Royalist. He opposed the scheme of a German Empire as proposed by the Frankfort Parliament of 1849.

In the spring of 1862 King William, on the urgent advice of the Prince of Hohenzollern, transferred Bismarck as ambassador to Paris, in order to give him an insight into the politics of the Tuileries. During his short stay at Paris Bismarck visited London, and had interviews with the leading politicians of the time, including Lord Palmerston and Mr. Disraeli. In the autumn Bismarck was recalled, to take the portfolio of the Ministry of Foreign Affairs, and the presidency of the Cabinet. Not being able to pass the reorganization bill and the budget, he closed the Chambers (October, 1862), announcing to the Deputies that the king's government would be obliged to do without their sanction. When the "conflict era," as it was called, approached a crisis, the death of the King of Denmark reopened the Schleswig-Holstein question, and excited a fever of national German feeling, which Bismarck was adroit enough to work so as to aggrandize Prussia by the acquisition of the Elbe duchies.

The action of France in regard to the candidature of Prince Leopold of Hohenzollern for the throne of Spain gave Bismarck the opportunity of carrying into action the intensified feeling of unity among Germans. During the War of 1870–1871, Bismarck was the spokesman of Germany; he it was that in February, 1871, dictated the terms of peace to France. Having been made a Count in 1866, he was now created a prince and Chancellor of the German Empire. Following the Peace of Frankfort (May 10, 1871), the sole aim of Bismarck's policy, domestic and foreign, was to consolidate the young empire of his own creating.

In 1884 Bismarck inaugurated the career of Germany as a colonizing power, a new departure which brought him into sharp but temporary conflict with the England of Gladstone. For the rest, his foreign policy mainly aimed at isolating France and rendering her incapable of forming anti-German alliances. On the other hand, he gradually combined the central powers of Europe into a peace league, aiming at counteracting the aggressiveness of Russia and France, separately or combined, on the Danube or the Rhine. The nucleus of this peace league was formed in 1879 by the Austro-German Treaty of Alliance (published in February, 1888), which Italy formally joined in 1886, and which entitles Bismarck to be called the "peacemaker" and the "peacekeeper" of Europe.

Bismarck's life was often threatened, and twice actually attempted — once at Berlin in 1866, just before the Bohemian campaign, by Ferdinand Cohen (or Blind), a crazy youth who aimed at making himself the instrument of popular dissatisfaction with Bismarck, as the champion of absolutism and the fancied apostle of a fratricidal war; and again in 1874 at Kissingen, by a Catholic tinsmith named Kullman.

Emperor William died on March 9, 1888. The short reign of Emperor Frederick followed and then the present Emperor ascended the throne. On March 18, 1890, Bismarck fell. The cause of his fall has not yet been told. When Bismarck's 81st birthday was celebrated there was talk of reconciliation between the Prince and his sovereign. The Emperor sent his photo-

graph to Bismarck, the latter returned thanks, and little by little the way was paved for a meeting between the two men, and eventually for the State visit which the Emperor paid to Bismarck at Friedrichsruhe, where the statesman died July 30, 1898.

In September, 1903, letters have been published showing the close and cordial relations between Bismarck and Kaiser William the First, and that the emperor attributed Germany's triumph in 1870–1871 to what he called Bismarck's "world-historical achievements."

Bismarck Archipelago, the name officially given by Germany to New Britain, New Ireland, New Hanover, and several smaller adjoining islands in the South Pacific.

Bismuth, a triad metallic element, found associated with the ores of nickel, cobalt, copper and silver, in Saxony, Austria, Peru, Australia and Bolivia.

Bison, the name applied to two species of ox. One of these, the European bison or aurochs (Bos bison or Bison Europœus), is now nearly extinct, being found only in the forests of Lithuania and the Caucasus. The other, or American bison (Bison Americanus), is found only in North America, and is remarkable for the great hump or projection over its fore shoulders, and for the length and fineness of its woolly hair.

The American bison, or buffalo, was once extensively diffused over what is now the territory of the United States, except that part lying on the E. of Hudson river and Lake Champlain, and narrow strips of coast on the Atlantic and Pacific. Southward its range extended to the delta of the Mississippi and into part of Mexico, while in the N. W. it reached even as far as the Great Slave Lake. The great prairies connected with the Mississippi system formed its favorite feeding-grounds, and here it used to be seen in herds whose numbers were well-nigh incredible.

All this is now a thing of the past, and the wholesale destruction of the bison is one of the most melancholy stories in the history of zoology. So long as it was pursued only or mainly by the Indians there was little to fear for it, though many tribes were almost wholly dependent on these animals for food, clothing, tents, utensils, etc. Vast multitudes owing to this were slaughtered annually; but it is to be deeply regretted that the white hunters (especially after the spread of railroads) were in the habit of destroying these interesting and valuable beasts in the most wanton and unnecessary manner. It was common for such persons to shoot bisons, even when they had abundance of food, for the sake of the tongue or hump alone, or even because the animals came so near as to present a fair aim. It is therefore not to be wondered that, from all causes of diminution, the bison should become less and less numerous every year till it is now practically extinct, at least in the wild state.

Of late years the National Museum of the United States thought it necessary to send out an expedition to collect a few specimens in view of this contingency; and a report furnished to the museum in 1886 shows what difficulty the expedition had in fulfilling its mission in consequence of the extermination of the bison having been already so nearly effected. "It is firmly believed by good authorities," the report states, "that there are not now more than from 50 to 100 buffaloes in the whole of Montana (where this animal used to be remarkably abundant) outside of the National Park, where there are probably from 200 to 300 head."

Bissagos Islands, a group of small volcanic islands, about 30 in all, off the W. coast of Africa, opposite the mouth of the Rio Grande.

Bissao, an island and Portuguese station closer to the African coast than the Bissagos and opposite the Jeba's delta.

Bissell, Edwin Cone, an American Congregational clergyman and writer, born at Schoharie, N. Y., March 2, 1832. Having served in the Civil War (1862–1863), he became pastor in Massachusetts and California, missionary in Austria (1873–1878), Professor in the Hartford Congregational Theological Seminary (1881–1892), and the McCormick Presbyterian Theological Seminary, Chicago (1892–1894). He died in Chicago, April 9, 1894.

Bissell, Wilson Shannon, an American lawyer, born in New London, N. Y., Dec. 31, 1847; died Oct. 6, 1903; graduated at Yale University in 1869; and studied law in Buffalo with Cleveland & Folsom. In 1872 he formed a partnership with Lyman K. Bass, the firm of which Grover Cleveland became a member in 1873. When Mr. Cleveland was elected governor of New York the firm was disbanded. Subsequently it was reorganized, and, in 1900, consisted of Bissell, Carey & Cooke. He was a delegate to several State Conventions; in 1884 was a Democratic Presidential Elector; and in 1893–1895 was Postmaster-General. He died Oct. 6, 1903.

Bissen, Wilhelm, a Danish sculptor, born in Schleswig in 1798, and from 1823 to 1833 studied in Rome under Thorwaldsen, who, in his will, commissioned him to complete his unfinished works. He died March 10, 1868.

Bissextile Year, the early name for Leap Year. In the Julian calendar, the 24th of Feb. was counted twice (bis), and as it was the sixth (sextus) before the Kalends of March it was called bis-sextilis.

Bistineau, a navigable lake in N. W. Louisiana; 25 miles long by 2 miles wide; discharges into the Red river.

Bitter, Arthur, pseudonym of SAMUEL HABERSTICH, a Swiss poet and story writer, born in Ried near Schlosswyl, Oct. 21, 1821. He died in Bern, Feb. 20, 1872.

Bitter Almond, the bitter variety of common almond.

Bitter Apple, a name applied to the bitter gourd.

Bitter Ash, a tree, a native of the West Indies, the bark of which is used as a tonic.

Bitter Gourd, a plant called also colocynth.

Bitter King, tree of the quassia order peculiar to the Moluccas and Fiji Islands.

Bitter Lakes, salt lakes on the line of the Suez canal.

Bittern. The bitterns are distinguished from the herons proper, besides other characteristics, by having the feathers of the neck loose and divided, which makes it appear thicker than in reality it is.

BITTERN.

Bitter Nut, a tree of North America, of the walnut order, the swamp hickory, which produces small and somewhat egg-shaped fruits, with a thin, fleshy rind; the kernel is bitter and uneatable.

Bitter Root, a plant of Canada and part of the United States, order mesembryaceæ, so called from its root being bitter though edible, and indeed esteemed as an article of food by whites as well as Indians.

Bitter Root Mountains, a range of the Rocky Mountains, in Montana, deriving its name from a plant with rose colored blossoms.

Bitter Root River, a tributary of the Columbia in Montana, flowing N. into Clark's river in Missoula county; length about 110 miles.

Bitter Root Valley, on the E. of the Bitter Root Range, in Montana, is 90 miles long and 7 miles wide, enwalled by lofty mountains, and abounding in farms and cornfields.

Bitter Sweet, the woody nightshade.

Bitumen, a mineral substance, remarkable for its inflammability and its strong, peculiar odor; generally, however, supposed to be of vegetable origin.

Bituminous Coal, coal which burns with a yellow, smoky flame, and on distillation gives out hydrocarbon or tar.

Bituminous Limestone, limestone impregnated with bitumen.

Bitzius, Albert (better known under the nom de plume of JEREMIAS GOTTHELF), a Swiss author, born in Murton, Canton of Freiburg, Oct. 4, 1797. As a pastor in retired districts, he saw the hard conditions of the poor, and in 1837 wrote "The Peasant's Mirror," a vividly realistic presentation of peasant life. He died at Lutzelfluh, Bern, Oct. 22, 1854.

Bivalves, those mollusks whose coverings consist of two concave shelly plates or valves united by a hinge.

SHELL OF A BIVALVE.

A. The line across marks the thickness. B, a, anterior extremity; b, posterior; c, d, muscular impressions; e, f, palleal impressions; g, lower edge of the left valve.

Bivouac, an encampment of soldiers in the open air without tents, each remaining dressed and with his weapons at hand.

Bizerta, a fortified seaport of Tunis, the most northern town of Africa; at the extremity of a bay formed by Capes Ras-el-Zebib and El-Arid. The town is built on the shore of a lake which communicates with the sea by a canal; and in the time of Barbarossa it was a city of great strength and magnificence. The lake is the chief source of trade, as it abounds in many valuable kinds of fish. Beside the fishery there are valuable coral, grape, olive, and pottery industries. The port is surrounded by walls and defended by two castles. Bizerta steadily declined in commercial and political importance till 1892, when the French Government began converting it into a magnificent naval port. Three years were occupied in this work, which included the opening and improvement of the lake, which is now large enough to accommodate at one time all the navies of the world.

Bizet, Georges, (ALEXANDER CESAR LEOPOLD), the composer of the opera "Carmen." He was born in France 1837; died 1875.

Bjornson, Bjornstjerne, a Norwegian novelist, poet, and dramatist, born at Kvikne, Norway, Dec. 8, 1832. He published his first story, "Synnove Solbakken," in 1857, and that, with "Arne" (1858) and "A Lively Fellow" (1860), established his reputation as a novelist. He published a volume of "Poems and Songs" in 1870. He died April 26, 1910.

Black, the negation of all color, the opposite of white.

Black, Adam, a Scotch publisher, born in Edinburgh, Feb. 20, 1784. In 1808 he began business as a bookseller, and later with his nephew, Charles B. Black, established a publishing house in Edinburgh. Their most famous publications were "Encyclopædia Britannica," and the "Waverly Novels." Adam Black was twice Lord Provost of Edinburgh and in 1856–1865 represented that city in Parliament. He declined the honor of knighthood, and a statue was erected in Edinburgh in recognition of his public services, in 1877. He died Jan. 24, 1874.

Black, Frank Swett, an American lawyer, born in Limington, Me., March 8, 1853; graduated at Dartmouth College in 1875; was editor of the "Journal" in Johnstown, N. Y. He studied law at Troy in the office of Robertson & Foster, and was admitted to the bar in 1879. He won much popularity by his activity in prosecuting the men who murdered

Robert Ross in the election riots in Troy in 1892. In 1895–1897, he was a member of Congress, and in 1897–1899 Governor of New York. He now practises law in New York.

Black, Jeremiah Sullivan, an American lawyer, born in Glades, Pa., Jan. 10, 1810; studied law, and was admitted to the bar in 1831. In 1857 he was appointed Attorney-General of the United States by President Buchanan, and in 1860–1861 was United States Secretary of State. On the accession of President Lincoln he retired from public life. He died in York, Pa., Aug. 19, 1883.

Black, John Charles, an American lawyer, soldier, and statesman, born in Lexington, Miss., Jan. 27, 1839; graduated at Wabash College, Crawfordsville; entered the Union army in 1861 as Colonel of the 37th Illinois Volunteers; was severely wounded in the service; and was brevetted Brigadier-General. After the war he was elected Congressman-at-large from Illinois; was appointed Commissioner of Pensions by President Cleveland during the latter's first term, and United States District Attorney for the Northern District of Illinois during his second term.

Black, William, a Scottish novelist, born in Glasgow in November, 1841. He received his education at private schools. In 1874 he abandoned the career of journalism, which he had successfully pursued, visited the United States in 1876, and, returning to London, devoted himself anew to literature. In addition to an interesting story, his novels contain fine descriptions of scenery. They are very popular. He died in Brighton, England, Dec. 10, 1898.

Black Art, exorcism, the alleged ability to expel evil spirits from haunted houses or from persons bewitched; necromancy, or anything similar.

Black Assize, in English history, an assize held at Oxford in 1557, when the High Sheriff and 300 other persons died of infectious disease caught from the prisoners.

Black Belt, an agricultural region of Alabama; 70 miles wide, extending entirely across the State, between 33° and 31° 40′; so called from the fact that the negroes greatly predominate in numbers.

Blackberry, a plant common in the northern portions of the United States and in most parts of Europe, and also in Northern Central Asia.

Black Bird, a well known bird. There are two American species, red winged blackbird, and the crow blackbird.

Blackburn, a town and parliamentary borough of England, 21 miles N. N. W. from Manchester. It is pleasantly situated in a sheltered valley and has rapidly improved since 1850. Blackburn is one of the chief seats of the cotton manufacture, there being upward of 140 mills as well as works for making cotton machinery and steam engines. The cottons made in the town and vicinity have an annual value of about £5,000,000. Pop. (1901) 127,527.

Blackburn, Joseph Clay Styles, an American lawyer, born in Woodford county, Ky., Oct. 1, 1838; was graduated at Center College, Danville, Ky., in 1857. He was admitted to the bar in 1859, and practiced in Chicago. During the Civil War he served in the Confederate army, and after the war resumed practice in Kentucky. In 1871 he was elected to the Kentucky Legislature, and in 1874 to Congress; and was a United States Senator in 1885–1897. During the presidential campaign of 1896 he was a leader in the free coinage silver movement.

Blackburn, Luke Pryor, an American physician, born in Fayette county, Ky., June 16, 1816; was graduated at Transylvania University, Lexington, Ky., in 1834, and began practicing in that city. When cholera broke out in the town of Versailles he went there and gave his services free during the epidemic. In 1846 he went to Natchez, Miss., and in 1848, when yellow fever appeared in New Orleans, as health officer of Natchez, he originated the first quarantine against New Orleans that had ever been known in the Mississippi valley. During the Civil War he was a surgeon on the staff of General Price. In 1875, when yellow fever broke out in Memphis, he hastened to the city and organized a corps of physicians and

nurses, and in 1878 gave his services to the yellow fever sufferers at Hickman, Ky. He was elected Governor of Kentucky in 1879. He founded the Blackburn Sanitarium for Nervous and Mental Diseases in 1884. He died in Frankfort, Ky., Sept. 14, 1887.

Blackburn, William Maxwell, an American Presbyterian clergyman and educator, born at Carlisle, Ind., Dec. 30, 1828. He became President of the University of North Dakota in 1884 and of Pierre University, South Dakota, in 1885, and President-Emeritus of the last (now Huron College) in 1898. He died in 1900.

Black Cap, a European passerine bird of the warbler family. It ranks next to the nightingale for sweetness of song. The American black cap is a species of tit-mouse, so called from the coloring of the head.

Black Death, The, one of the most memorable of the epidemics of the Middle Ages, was a great pestilence in the 14th century; which devastated Asia, Europe and Africa.

The whole period of time during which the black death raged with destructive violence in Europe was from 1347 to 1350; from this latter date to 1383 there were various pestilences, bad enough, indeed, but not as violent as the black death.

Blackfeet Indians, a tribe of American Indians, partly inhabiting the United States, partly Canada, from the Yellowstone to Hudson Bay.

Blackfish, a fish caught on the coast of the United States, especially in the vicinity of Long Island.

Black Flags, an organization of Chinese rebels who established themselves in the Red River valley in Tonquin, after the suppression of the Taiping Rebellion in Southern China (1850–1854). From their warlike character and desperate deeds they were called Black Flags as distinguished from the peaceable Yellow Flags. They were responsible for the massacre in 1884 of missionaries and native Christians.

Black Forest, a great forest, situated in Baden and Wurtemberg, near the source of the Danube.

Black Friars, friars of the Dominican Order: so called from their costume.

Black Friday, the Friday, Sept. 24, 1869, when the attempt of Jay Gould and James Fisk, Jr., to create a corner in the gold market by buying all the gold in the banks of New York city, amounting to $15,000,000, culminated. For several days the value of gold had risen steadily, and the speculators aimed to carry it from 144 to 200. Friday the whole city was in a ferment, the banks were rapidly selling, gold was at 162½, and still rising. Men became insane, and everywhere the wildest excitement raged, for it seemed probable that the business houses must be closed, from ignorance of the prices to be charged for their goods. But in the midst of the panic it was reported that Secretary Boutwell of the United States Treasury had thrown $4,000,000 on the market, and at once gold fell, the excitement ceased, leaving Gould and Fisk the winners of $11,000,000. The day noticed above is what is generally referred to as Black Friday in the United States, but the term was first used in England, being applied in the first instance to the Friday on which the news reached London, Dec. 6, 1745, that the young Pretender, Charles Edward, had arrived at Derby, creating a terrible panic; and finally to May 11, 1866, when the failure of Overend, Gurney & Co., London, the day before, was followed by a widespread financial ruin.

Black Hand, common name in the United States for an offshoot of two long-established societies of an intricate and powerful order of Italian criminals, known in their respective strongholds of Naples and Sicily as the "Camorra" and "Mafia." The habit of the members of signing blackmail and threatening letters with the words "black-hand," or a rude representation of one, gave these desperadoes in the United States their distinctive name.

Black Hawk, a famous chief of the Sac and Fox Indians, born in 1767. He joined the British in 1812, and fought against the United States in 1831–1832. He died in 1838.

Blackheath, a village and heath, in Kent, England, about 6 miles S. E. of London Bridge.

Black Hills, a mountainous region in the S. W. of South Dakota,

extending into the E. part of Wyoming; long. 103° to 105°. It was purchased from the Indians in 1876, for whom it had been one of the finest hunting grounds in the West. In 1877–1878 thousands of miners went there, and in 1880 there had already sprung into existence three towns, Deadwood, Central City, and Leadville. Around these lay also groups of smaller towns and villages. From 1880 the gold mines yielded about $4,000,000 annually, and the silver mines about $3,000,000 annually.

Black Hole of Calcutta, a small chamber, 20 feet square, in the old fort of Calcutta, in which, after their capture by Surajah Dowlah, the whole garrison of 146 men were confined during the night of June 21, 1756. Only 23 survived. The spot is now marked by a monument.

Blackie, John Stuart, a Scottish author, born in Glasgow in July, 1809; died in Edinburgh, March 2, 1895.

Black Lead, Graphite, or **Plumbago,** a mineral consisting chiefly of carbon, but containing also more or less of alumina, silica, lime, iron, etc., to the extent of 1 to 47 per cent., apparently mixed rather than chemically combined. Black lead is the popular name, and that by which it is generally known in the arts, though no lead enters into the composition of the mineral; graphite is that generally preferred by mineralogists.

Black List, a list of bankrupts or other parties whose names are officially known as failing to meet pecuniary engagements. The term is also applied to a list of employes who have been discharged by a firm or corporation and against whom some objection is made and reported to other firms or corporations to prevent them obtaining employment.

Blackmail, a certain rate of money, corn, cattle or the like, anciently paid, in the N. of England and in Scotland, to certain men who were allied to robbers, to be protected by them from pillage. It was carried to such an extent as to become the subject of legislation. Blackmail was levied in the districts bordering the Highlands of Scotland till the middle of the 18th century. In the United States, the word is applied to money extorted from persons under threat of exposure for an alleged offense; hush-money.

Black Monday. (1) A name for Easter Monday, in remembrance of the dreadful experiences of the army of Edward III., before Paris, on Easter Monday, April 14, 1360. Many soldiers and horses perished from the extreme cold. (2) The 27th of Feb., 1865, a memorable day in Melbourne, Australia, when a destructive sirocco prevailed in the surrounding country.

Black Mountains, the group which contains the highest summits of the Appalachian system, Clingman's Peak being 6,701 feet, Guyot's Peak, 6,661.

Black Republic, a name applied to the Republic of Haiti, which is under the dominion of the African race.

Black Republicans, in the United States, a name applied to members of the Republican Party by the Pro-Slavery Party.

Black River, the name of several rivers in the United States: (1) An affluent of the Arkansas river, in Arkansas, 400 miles long. It is navigable to Poplar Bluff, 311 miles; (2) a river in New York, rising in the Adirondacks, and emptying into Lake Ontario near Watertown, length 200 miles; (3) a river in Wisconsin, flowing S. W., and emptying into the Mississippi river near Lacrosse; length 200 miles; (4) a river rising in the S. E. of Missouri, flowing nearly S., and entering the White river, of which it is the chief tributary, at Jacksonport, Ark.; length, 350 miles, of which 100 miles are navigable.

Black Rock Desert, a tract of nearly 1,000 square miles, N. of Pyramid Lake, in Nevada. In summer it is a barren level of alkali and in winter covered in places with shallow water. Called also "Mud Lakes."

Black Rood of Scotland, a cross of gold in the form of a casket, alleged to contain a piece of the true Cross.

Black Sea (ancient Pontus Euxinus), a sea situated between Europe and Asia, and mainly bounded by the Russian and Turkish dominions, being

connected with the Mediterranean by the Bosporus, Sea of Marmora, and Dardenelles, and by the Strait of Kertsch with the Sea of Azov, which is, in fact, only a bay of the Black Sea; area of the Black Sea and the Sea of Azov about 175,000 square miles, with a depth in the center of more than 150 fathoms and few shoals along its shores. The water is not so clear as that of the Mediterranean, and is less salt on account of the many large rivers which fall into it.

Black Sheep, a tribe of Turkomans, so called from their standard.

A black sheep: a disgrace to the family; a mauvais sujet; a workman who will not join in a strike.

Black Snake, a common snake in North America, reaching a length of 5 or 6 feet, and so agile and swift as to have been named the racer, with no poison fangs, and, therefore, comparatively harmless.

Blackstone, Sir William, an English jurist, born in London, July 10, 1723; educated at the Charter House and Pembroke College, Oxford. In 1743 he was elected fellow of All-Soul's College, Oxford, and in 1746 was called to the bar; but, having attended the Westminster law courts for seven years without success, he retired to Oxford. Here he gave lectures on law, which suggested to Mr. Viner the idea of founding a professorship at Oxford for the study of the common law; and Blackstone was, in 1758, chosen the first Vinerian Professor. In 1765 he published the first volume of his famous "Commentaries on the Laws of England." He died Feb. 14, 1780.

Black Tin, tin ore when dressed, stamped, and washed ready for smelting, forming a black powder.

Black Walnut, a valuable timber tree of the United States and its fruit. The great size often reached by this tree, the richness of the dark brown wood, the unique beauty of the grain sometimes found in burls, knots, feathers and in the curl of the roots, all conspire to make this the most choice and high priced of all our native woods.

Blackwell, Mrs. Antoinette Louisa (Brown), an American woman suffragist and Unitarian minister, born at Henrietta, N. Y., May 20, 1825. A graduate of Oberlin (1847), she "preached on her own orders," at first in Congregational churches, becoming at length a champion of women's rights. She married Samuel C., a brother of Dr. Elizabeth Blackwell (1856).

Blackwell, Elizabeth, an American physician and medical and ethical writer, born at Bristol, England, 1821. She was the first woman who obtained the degree of M. D. in the United States (1849), beginning practice in New York (1851). Died 1910.

Blackwell, Lucy Stone, an American woman suffragist, born in West Brookfield, Mass., Aug. 13, 1818; was graduated at Oberlin College in 1847; became a lecturer on woman suffrage, and a contributor to the press. In 1855 she married Henry B. Blackwell, a merchant of Cincinnati. She died in Dorchester, Mass., Oct. 20, 1893.

Blackwell's Island, an island belonging to the city of New York, in the East river, containing about 120 acres. On it are the penitentiary, almshouse, lunatic asylum for females, workhouse, blind asylum, hospital for incurables, and a convalescent hospital.

Blackwood, William, a Scotch publisher, born at Edinburgh, Nov. 20, 1776. He started as a bookseller in 1804, and soon became also a publisher. After his death the business, which had developed into a large publishing concern, was carried on by his sons, and the magazine still keeps its place among the leading periodicals. He died Sept. 16, 1834.

Blaeu, Blaeuw, or **Blauw,** a Dutch family celebrated as publishers of maps and books.

Blaine, James Gillespie, an American statesman, born in West Brownsville, Pa., Jan. 31, 1830. He graduated at Washington College, Pa., in 1847. In 1854 he removed to Augusta, Me., and engaged in journalism. He was one of the founders of the Republican Party, and in 1856 was a delegate to the first Republican National Convention, which nominated Fremont for the Presidency. In 1858 he was elected to the Legislature of Maine, and in 1862 to the House

of Representatives of the National Congress. He became Speaker of the House in 1869, and held that office for six years; was a member of the Senate from 1876 to 1881; was twice Secretary of State (1881–1882 and 1889–1892). He was defeated for the Presidency in 1884, by Grover Cleveland. Besides his numerous speeches and writings on the public questions of his day, his best known work is his "Twenty Years in Congress" (2 vols., 1884–1886), a historical production of great and permanent value. He died in Washington, D. C., Jan. 27, 1893.

Blair, Austin, an American lawyer, born in Caroline, N. Y., Feb. 8, 1818; was elected Governor of Michigan in 1860, becoming one of the War Governors. In 1866–1870 he was a member of Congress. He died in Jackson, Mich., Aug. 6, 1894.

Blair, Francis Preston, an American journalist and politician, born in Abingdon, Va., April 12, 1791; died at Silver Spring, Md., Oct. 18, 1876.

Blair, Francis Preston, Jr., an American military officer and legislator, born in Lexington, Ky., Feb. 20, 1821; son of the preceding. He was a Representative in Congress from Missouri in 1857–1859 and 1861–1863; became a Major-General in the Union army in the Civil War, taking an active part in the Vicksburg campaign and Sherman's march to the sea; was an unsuccessful Democratic candidate for Vice-President in 1868, and United States Senator in 1870–1873. He died in St. Louis, July 5, 1875.

Blair, Henry William, an American legislator, born in Campton, N. H., Dec. 6, 1834; received an academic education; was admitted to the bar in 1859; served through the Civil War, becoming Lieutenant-Colonel of the 15th New Hampshire Volunteers, and being twice wounded. After serving in both branches of the State Legislature he was a member of Congress in 1875–1879 and 1893–1895, and a United States Senator in 1879–1889.

Blair, Hugh, a Scotch clergyman and educational writer, born in Edinburgh, in 1718; was noted for the eloquence of his sermons, and also for "Lectures on Rhetoric" (1783), which attained great popularity, "Blair's Rhetoric" being familiar to all students. He died in 1800.

Blair, John Insley, an American philanthropist, born in Belvidere, N. J., Aug. 22, 1802; was in early life a merchant and banker; subsequently becoming the individual owner of more miles of railroad property than any other man in the world. He acquired a very large fortune; loaned the Federal Government more than $1,000,000 in the early part of the Civil War; built and endowed at a cost of more than $600,000, the Presbyterian Academy in Blairstown, N. J.; rebuilt Grinnell College, Iowa; erected Blair Hall and made other gifts to Princeton University; was equally liberal to Lafayette College; and had erected more than 100 churches in different parts of the West, besides laying out many towns and villages on the lines of his numerous railroads. He died in Blairstown, N. J., Dec. 2, 1899.

Blair, Montgomery, an American lawyer, born in Franklin county, Ky., May 10, 1813; was graduated at the United States Military Academy in 1835; resigned from the army in 1836; admitted to the bar in 1839; began practice in St. Louis. He acted as counsel for the plaintiff in the widely known Dred Scott case. In 1861–1864 he was Postmaster-General. In 1876–1877 he acted with the Democratic Party in opposing Mr. Hayes' title to the office of President. He died in Silver Springs, Md., July 27, 1883.

Blake, Edward, an English statesman, born in Cairngorm, Ont., Canada, Oct. 13, 1833; was educated at Upper Canada College and Toronto University; called to the bar in 1856; and engaged in practice in Toronto. He entered public life in 1867; was Premier of Ontario in 1871–1872, Minister of Justice in 1875–1877, and the recognized leader of the Canadian Liberal Party. In 1892 he was invited by the leaders of the Anti-Parnellites in Ireland to enter the British House of Commons as the representative of an Irish constituency. Consenting, he removed to South Longford, was elected for that district, and

in 1895 was re-elected. In 1896 he was appointed a member of the Judiciary Committee of the Privy Council.

Blake, Eli Whitney, an American inventor, born in Westboro, Mass., Jan. 27, 1795; graduated at Yale University in 1816. He began business with his uncle, Eli Whitney, in the manufacture of fire-arms; and in 1834 founded, near New Haven, Conn., the pioneer factory for the manufacture of domestic hardware. He died in New Haven, Conn., Aug. 17, 1886.

Blake, Mrs. Lillie (Devereux) Umstead, an American advocate of woman's rights, and novelist, born at Raleigh, N. C., 1835. Her first husband, Frank G. Quay Umstead, died in 1859; she married Grenfill Blake in 1866, who died in 1896.

Blake, William Phipps, an American mineralogist, born in New York city, June 1, 1826; was graduated at the Yale Scientific School in 1852. He became Geologist and Mineralogist to the United States Railroad Expedition in 1853; was Mining Engineer in connection with explorations in Japan, China, and Alaska in 1861–1863; was appointed Professor of Geology and Mineralogy in the College of California in 1864; and in 1900 was Director of the School of Mines in the University of Arizona.

Blakeley, Johnston, an American naval officer, born near Seaford, Ireland, October, 1781; entered the United States navy as a midshipman in 1800; commanded the "Enterprise" in the early part of the War of 1812; and was captain of the "Wasp" when she captured the English "Reindeer" in June, 1814. Soon after this he sailed with the "Wasp" on another cruise, but the vessel was lost at sea with all on board.

Blanchard, Jonathan, an American educator, born in Rockingham, Vt., Jan. 19, 1811; graduated at Lane Theological Seminary in 1832; and was ordained a Presbyterian minister in 1838. He was American Vice-President of the World's Anti-Slavery Convention in London in 1843; and in 1846 became President of Knox College at Galesburg, Ill. He was President of Wheaton College, Ill., in 1880–1882; and, on resigning, was chosen president-emeritus. He died in Wheaton, Ill., May 14, 1892.

Blanco, Antonio Guzman, a Venezuelan military officer, born in Caracas, Feb. 29, 1828. He became prominent in the Federalist revolts, 1859–1863, and when his party triumphed, was made first Vice-President in 1863 under Falcon, who was deposed in the Revolution of 1868. Blanco led a successful counter revolution in 1870, became President, and retained the office till 1882. In 1893 he was appointed Minister to France, where he resided till his death, July 29, 1899.

Blanco, Jose Felix, a Venezuelan historian, born in Mariana de Caracas, Sept. 24, 1782. At different times he acted in the capacity of priest, soldier, and statesman. He was one of the leaders in the Revoluton at Caracas, April 19, 1810, and was the first editor of the great historical work, "Documentos para la historia de la vida publica del Libertador," etc. He died in Caracas, Jan. 8, 1872.

Blanco, Pedro, a Bolivian statesman, born in Cochabamba, Oct. 19, 1795. He joined the Spanish army in 1812, but soon deserted to the patriots, and served with them till the end of the Revolution. In 1828 he became a general, and in the same year, when Sucre fell, was made President of Bolivia, but was superseded in the Revolution of Dec. 31, 1828. He was shot in Sucre, in January, 1829.

Blanco, Ramon y Arenas, Marquis de Pena Plata, Captain-General of the Spanish army in Cuba during the Spanish-American War; was born at San Sebastian, Spain, in 1833, and began his military career at the age of 22, entering the army in 1855 as a Lieutenant; was promoted to a captain in 1858, and won the rank of Lieutenant-Colonel in the war with San Domingo. When the Spaniards were driven from the island Blanco went to the Philippines as governor of Mindanao. When he returned to Spain he was assigned to the Army of the North, and in the war with the Carlists made a brilliant record. He successfully stormed Pena Plata, for which achievement he was created a Marquis of that name. He

succeeded General Weyler in command of the army in Cuba, where his career terminated with the U. S. occupation. He died April 4, 1906.

Blanco Encalada, Manuel, a Spanish-American military officer, born in Buenos Ayres, Sept. 5, 1790; distinguished himself in the Chilian War of Independence. He was chosen President of Chile in July, 1826, but soon resigned, and was made General of the army. He unsuccessfully invaded Peru in 1837, and was not allowed to retire till he had signed a treaty of peace. Chilé annulled this treaty, and he was court-martialed, but freed. In 1847 he was Intendant of Valparaiso, and in 1853–1858 Minister to France. He died in Santiago, Chile, Sept. 5, 1875.

Bland, Richard Parks, an American legislator, born in Kentucky, Aug. 19, 1835; received an academical education, and, between 1855 and 1865, practiced law in Missouri, California, and Nevada, and was engaged for some time in mining. In 1865 he settled in Rolla, Mo., and practiced there till 1865, when he removed to Lebanon in the same State. He was a member of Congress in 1873–1895 and from 1897 till his death. In 1896 he was a conspicuous candidate for the Presidential nomination in the Democratic National Convention, but on the fourth ballot his name was withdrawn, and the vote of his State was cast for William J. Bryan. Mr. Bland was best known as the leader in the Lower House of Congress of the Free-Silver movement, and the author of the Bland Silver Bill. At the time of his death he was a member of the Committees on Coinage, Weights and Measures, and Expenditures on Public Buildings. He died in Lebanon, Mo., June 15, 1899.

Bland, Theodoric, an American military officer, born in Prince George county, Va., in 1742; studied medicine in the University of Edinburgh, and for a time practiced in England. He returned home in 1764, and was active in his profession until the outbreak of the Revolutionary War, when he sided with the colonists, and became Captain of the First Troop of Virginia cavalry. In 1777 he joined the main army as a Lieutenant-Colonel, and later became a Colonel. He distinguished himself at the battle of Brandywine, and was placed in command of the prisoners taken at Saratoga, who were marched to Charlottesville, Va. In 1780–1783 he was a member of the Continental Congress, and was a Representative from Virginia to the 1st Federal Congress in 1789. He died in New York city, June 1, 1790.

Bland Silver Bill, one of the most notable measures of American Congressional history. The original bill, as introduced by Representative Bland and passed by the House late in 1877, provided simply for the free and unlimited coinage of silver by all the mints of the United States. This programme represented the full policy of the Silver men. The silver dollar had been demonetized by the act of 1873, and its coinage had been wholly abandoned. The Bimetallists desired to restore it to perfect equality with gold as a standard of value, and the original Bland bill, permitting owners of silver bullion to have their commodity coined into dollars by the mints, was intended as the means to accomplish that object. But the Senate amended the measure materially. The free coinage clause was stricken out, and, as a concession to the Silver men, it was directed that the Secretary of the Treasury should purchase monthly not less than $2,000,000 and not more than $4,000,000 worth of silver bullion, at the market price of the metal, and coin it into standard silver dollars, which should be unlimited legal tender for all debts. The amended bill was reported by Senator Allison, Chairman of the Finance Committee, and hence received the name of the Bland-Allison Act. It was vetoed by President Hayes, but passed over his veto, Feb. 28, 1878, by 196 to 73 in the House, and 46 to 19 in the Senate. The silver purchase clause in this act was repealed by the Sherman Act of 1890.

Blank Verse, verse which is void of rhyme.

Blarney, a village in Ireland, 4 miles N. W. of the city of Cork, with Blarney Castle in its vicinity. A stone called the Blarney Stone, near the top of the castle, is said to confer on those who kiss it the peculiar kind of

persuasive eloquence alleged to be characteristic of the natives of Ireland.

Blashfield, Edwin Howland, an American artist, born in New York city, Dec. 16, 1848; studied in Paris under Leon Bonnat; and began exhibiting in the Paris Salon in 1874. He returned to the United States in 1881, and has since distinguished himself by the execution of large decorative works.

Blasphemy, slander or even well merited blame, applied to a person or in condemnation of a thing.

The word is particularly applied to any profane language toward God; blasphemy against the Holy Ghost means the sin of attributing to Satanic agency the miracles which were obviously from God.

Blast Furnace, a structure built of refractory material in which metallic ores are smelted in contact with fuel and flux, the combustion of the fuel being accelerated by air under pressure.

Blasting, the operation of breaking up masses of stone or rock in situ by means of gunpowder or other explosive. In ordinary operations, holes are bored into the rock of from one to six inches in diameter, by means of a steel pointed drill, by striking it with hammers or allowing it to fall from a height. After the hole is bored to the requisite depth it is cleaned out, the explosive is introduced, the hole is tamped or filled up with broken stone, clay or sand, and the charge exploded by means of a fuse or by electricity.

Blavatsky, Helene Petrovna, a noted theosophist; born in Yekaterinoslay, Russia, in 1831; founded the Theosophical Society in New York in 1875. She died in London, May 8, 1891.

Blazonry, the art of describing a coat of arms in such a way that an accurate drawing may be made from the verbal statements given.

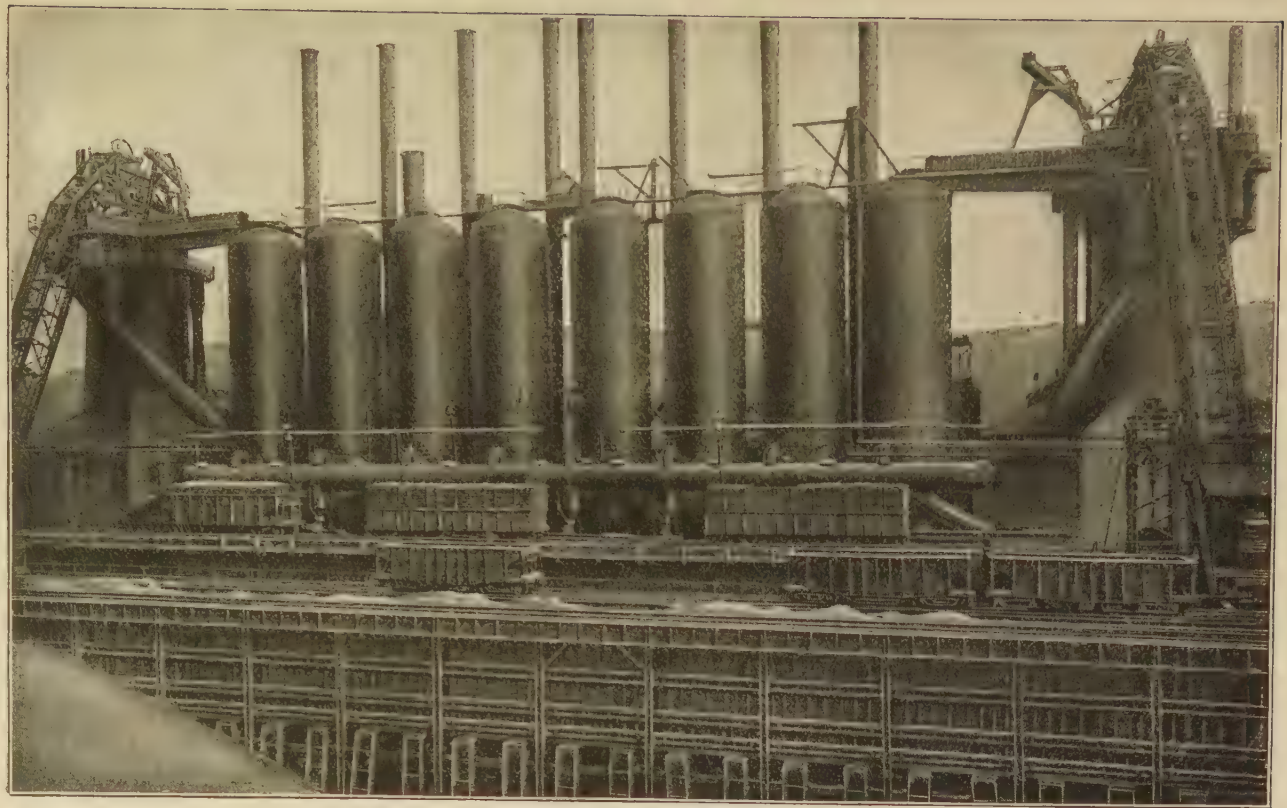
Bleaching, the art of whitening linen, wool, cotton, silk, wax, also the materials of which paper is made, and other things.

Bledsoe, Albert Taylor, an American clergyman and writer; born in Frankfort, Ky., Nov. 9, 1809. He was Assistant Secretary of War of the Southern Confederacy, and both an Episcopal and a Methodist minister. He died in Alexandria, Va., Dec. 1, 1877.

Bleeding, or Hemorrhage, one of the most serious accidents which can happen to an animal, and constitutes the most anxious complication in surgical operations.

Blenheim, a village situated in the circle of the Upper Danube, in Bavaria, on the Danube. Here was fought, Aug. 13, 1704, the famous battle of Blenheim (or, as it is more commonly called on the European Continent, the battle of Hochstadt, from another village of this name in the vicinity), in which Marlborough and Prince Eugene, commanding the allied forces of England and the German empire, gained a brilliant victory over the French and Bavarians.

Blennerhasset, Harman, an Englishman of Irish descent, noted for his connection with Aaron Burr's conspiracy, born in Hampshire, Oct. 8, 1764 or 1765; was educated at Trinity College, Dublin; studied law; and came to the United States in 1797. In the following year he built a beautiful residence on a little island in the Ohio river below Parkersburg, where Aaron Burr, after his fortunes were broken and he did not feel safe in New York, was received as a guest. Burr proposed his scheme for taking Mexico, where, in case of success, Burr was to be Emperor and Blennerhasset a duke and ambassador to England. Large sums were expended to fit out the expedition and when Burr was arrested, and Blennerhasset as a suspected person with him, creditors seized the island and home, and Blennerhasset found himself bankrupt. After this all projects failed with him. In his last years he was supported by the charity of a relative. He died on the Island of Guernsey, Feb. 1, 1831. His wife was a daughter of Governor Agnew, of the Isle of Man, and the author of many poems, including "The Deserted Isle," "The Widow and the Rock," etc. After her husband's death she petitioned Congress for a reparation of her losses, but died before any action was taken. Their son, Joseph



BLAST FURNACE FOR SMELTING IRON ORES

Lewis Blennerhasset, was a lawyer in Missouri.

Blesbok, an antelope of South Africa with a white marked face, a general purplish chocolate color, and a saddle of a bluish color; found in great numbers in the late Boer republics in South Africa and much hunted.

Blessington, Margaret, Countess of, was born near Clonmel, Ireland, 1789, died at Paris 1849. At the age of fifteen, she was married to a Captain Farmer, who died in 1817; and a few months after his death his widow married Charles John Gardiner, earl of Blessington. After the earl's death in 1829, Lady Blessington took up her abode in Gore House, Kensington. Her residence became the fashionable resort for all the celebrities of the time; and that notwithstanding a doubtful connection which she formed with Count D'Orsay, with whom she lived till her death. No name is more frequently mentioned by writers of the time.

Bligh, William, the commander of the English ship "Bounty" when the crew mutinied in the South Seas and carried her off, was born at Plymouth in 1753. The "Bounty" had been fitted out for the purpose of procuring plants of the bread fruit tree, and introducing these into the West Indies. Bligh left Tahiti in 1789, and was proceeding on his voyage for Jamaica when he was seized, and, with 18 men supposed to be well affected to him, forced into the launch, sparingly provisioned, and cast adrift; but Bligh, with 12 of his companions, arrived in England in 1790, while the mutineers settled on Pitcairn Island, where their descendants still exist. Bligh became Governor of New South Wales in 1806, but his harsh and despotic conduct caused him to be deposed and sent back to England. He afterward rose to the rank of Admiral, and died in London in 1817.

Blight, a diseased state of cultivated plants, especially cereals and grasses. The term has been very vaguely and variously used, having, in fact, been applied by agriculturists to almost every disease of plants in turn, however caused, especially when the plant dies before reaching maturity. It is now applied scientifically only to such diseases as are caused by parasite fungi or bacteria, as apple-blight, cherry-blight, potato-blight, etc.

Blind Fish, the name of several species of fish inhabiting the American cave streams. They are all small, the largest not exceeding five inches.

Bliss, Cornelius Newton, an American merchant, born in Fall River, Mass., Jan. 26, 1833; was educated in New Orleans; entered his stepfather's counting room there; engaged in the commission business in Boston, and became head of the dry goods commission house of Bliss, Fabyan & Co., New York city, in 1881. He was a member of the Pan-American Conference; Chairman of the New York Republican State Committee in 1877-1878; and Treasurer of the National Republican Committee in 1892 and 1896; declined to be a candidate for Governor of New York in 1885 and 1891; and was Secretary of the Interior Department in President McKinley's cabinet in 1897-1898.

Bliss, Daniel, an American missionary, born in Georgia, Vt., Aug. 17, 1823; was graduated at Amherst College in 1842, and at the Andover Theological Seminary in 1855; was ordained a Congregational minister, Oct. 17, 1855; engaged in missionary work in Syria in 1855-1862; and in 1866 became President of the Syrian Protestant College in Beyrout.

Bliss, Edwin Elisha, an American missionary, born in Putney, Vt., April 12, 1817; graduated at Amherst College in 1837, and at Andover Theological Seminary in 1842; was ordained as a missionary in 1843, and joined the American Mission in Turkey. He died in Constantinople, Dec. 29, 1892.

Bliss, Frederick Jones, an American explorer, born in Mt. Lebanon, Syria, Jan. 23, 1859; son of Daniel Bliss; was graduated at Amherst College in 1880, and at the Union Theological Seminary in New York in 1887; was principal of the preparatory department of the Syrian Protestant College of Beyrout for three years; was appointed Explorer to the Palestine Exploration Fund in 1890, and is best known for his excavations and finds in Jerusalem in 1891-1897.

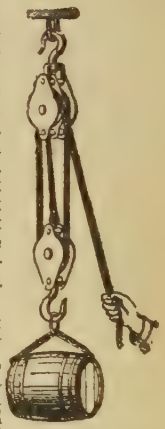
Bliss, George, an American lawyer, born in Springfield, Mass., May 3, 1830; died near Wakefield, R. I., Sept. 2, 1897.

Bliss, Porter Cornelius, an American diplomatist, born in Erie county, N. Y., Dec. 28, 1838; was educated at Hamilton and Yale Colleges; became private secretary to James Watson Webb, United States Minster to Brazil; explored the Gran Chaco for the Argentine Government; compiled the various Indian dialects and investigated the antiquities of that region; and, in 1866, became private secretary to Charles A. Washburn, United States Minister to Paraguay. He was commissioned by President Lopez to write a history of Paraguay, and while doing so war broke out between that country and Brazil, and he was imprisoned and tortured on suspicion of being a Brazilian spy. It required the presence of an American squadron to effect his release. In 1870–1874 he was Secretary of the United States Legation in Mexico, and during that time made several archæological explorations, and wrote on the opportunities of American enterprise in that country. He died in New York, Feb. 2, 1885.

Bliss, William Dwight Porter, an American clergyman, born in Constantinople, Turkey, in 1856; was graduated at Amherst College in 1878, and the Hartford Theological College in 1882; was ordained a Congregational clergyman; became an Episcopal priest in 1887; organized the first Christian Socialist Society in the United States in 1889.

Blizzard, a modern American word whose origin is in doubt. As applied to a severe snow storm the word came into general use in the American newspapers during the bitterly cold winter of 1880–1881, although some papers claim its use as early as the '70's. It is employed in the Western States to describe a peculiarly fierce and cold wind, accompanied by a very fine, blinding snow which suffocates as well as freezes men and animals exposed to it. These storms come up very suddenly and overtake the traveler without premonition. The sky becomes darkened, and the snow is driven by a terrible wind which comes with a deafening roar. The blizzard which will long be remembered in the Eastern States began March 11, 1888, and raged until the 14th, New York and Philadelphia being the cities most affected. The wind at one time blew at the rate of 46 miles an hour. The streets and roads were blocked, railroad trains snowed up for days, telegraphic communication cut off, and many lives were lost.

Block, a pulley or a system of pulleys rotating on a pintle mounted in its frame or shell with its band and strap. There are many kinds of blocks, as a pulley block, a fiddle block, a fish block, a fly block, a heart block, a hook block, etc. A block and tackle is the block and the rope rove through it, for hoisting or obtaining a purchase.



BLOCK AND TACKLE.

Blockade, the act of surrounding a city with a hostile army, or, if it be on the sea coast, of placing a hostile army around its landward side, and ships of war in front of its sea defenses, so as, if possible, to prevent supplies of food and ammunition from entering it by land or water. The object of such an investment is to compel a place too strong or too well defended to be at once captured by assault, to surrender on account of famine. The investment of a place by sea is to prevent any ships from entering or leaving its harbor. The practice seems to have been introduced by the Dutch about 1584.

To break the blockade is to forcibly enter a blockaded port, if not even to compel the naval force investing it to withdraw. To raise a blockade is to desist from blockading a place or to compel the investing force to do so. To run a blockade is to surreptitiously enter or leave a blockaded port at the risk of being captured. As a blockade seriously interferes with the ordinary commercial right of trading with every

place, international law carefully limits its operation, by certain provisions regarding the rights of nations not interested in the war.

Block Books, before, and for a short time after, the invention of printing, books printed from wooden blocks each the size of a page and having the matter to be reproduced, whether text or picture, cut in relief on the surface.

Block House, a fortified edifice of one or more stories, constructed chiefly of blocks of hewn timber. Block houses are supplied with loopholes for musketry and sometimes with embrasures for cannon, and when of more than one story the upper ones are made to overhang those below.

Block Island, an island in the Atlantic off the coast of Rhode Island, to which it belongs; named from Adrian Block, a Dutch navigator who discovered it in 1616.

Block Printing, the method of printing from wooden blocks (producing block books), as is still done in calico printing and making wall paper.

Block System, in railroad parlance, the division of a railroad into a certain number of telegraphic districts, the distance between which is determined by the amount of traffic, each block station having signaling instruments by which the signal man can communicate with the operator on each side of him. When a train enters any block a semaphore signal is lowered, and no train is allowed to follow until the one in front has reached the end of the block.

Blodget, Lorin, an American physicist, born near Jamestown, N. Y., May 25, 1823; was educated at Hobart College; appointed Assistant Professor at the Smithsonian Institution, Washington, D. C., in charge of researches on climatology, in 1851. He is credited with having laid the foundation of American climatology. He died in Philadelphia, Pa., March 24, 1901.

Blodgett, Samuel, an American inventor; born in Woburn, Mass., April 1, 1724. He took part in the French and Indian War; was a member of the expedition against Louisburg, in 1745; and subsequently became a judge of the Court of Common Pleas, in Hillsboro county, N. H. He was the inventor of an apparatus by which he recovered a valuable cargo from a sunken ship near Plymouth, Mass., in 1783. In 1793 he began the construction of the canal around Amoskeag Falls in the Merrimac which now bears his name, but did not live to complete the work. He died in Haverhill, Mass., Sept. 1, 1807.

Blodgett, Henry Williams, an American jurist, born in Amherst, Mass., July 21, 1821; was educated at Amherst Academy; studied surveying and engineering; was admitted to the bar in 1844; and settled in Waukegan, Ill., to practice, in the following year. He served in the Lower House of the Legislature in 1852–1854, and in the State Senate in 1859–1865; and was United States District Judge for the Northern District of Illinois from 1869 till 1893, when he retired. He was appointed one of the counsel on the part of the United States before the Arbitration Tribunal on the Bering Sea fur seal controversy between the United States and Great Britain, in 1892. Died, Feb. 9, 1905.

Bloemfontein, city and capital of the former Orange Free State (name changed by the British, May 29, 1900, to Orange River Colony), South Africa; on the Modder river, 200 miles W. by N. of Durban, the base of British operations in the war against the Boers. It occupies an elevated site; is connected with Natal and Cape Colony by telegraph; and is the seat of an Anglican bishopric, and a college. In the war between Great Britain and the South African and Orange Free State Republics in 1899–1900 it was the seat of important military operations. In June, 1899, a conference was held here between President Kruger of the South African Republic and Sir Alfred Milner, the British Commissioner of Cape Colony, with a view of averting war. After the appointment of Lord Roberts to the supreme command of the British forces operating against the Boers, he led an expedition against the city and forced its surrender on March 13, 1900, President Steyn escaping capture. Soon afterward the part of the republic occupied by the British was formally placed under British administration.

Blois, the capital of the French Department of Loir-et-Cher, 99 miles S. S. W. of Paris, on the Loire.

Blondel, a French minstrel and poet of the 12th century, a confidential servant and instructor in music of Richard Cœur de Lion. While his master was the prisoner of the Duke of Austria, Blondel, according to the story, went through Palestine and all parts of Germany in search of him. He sang the king's own favorite lays before each keep and fortress till the song was at length taken up and answered from the windows of the castle of Loewenstein, where Richard was imprisoned.

Blondin, Charles, a French rope dancer, born at St. Omer, Pas-de-Calais, in 1824, was trained at Lyons, where he made such rapid progress that he was designated "The Little Wonder." After making a several years' tour of the United States, on June 30, 1859, before a crowd of 25,000 persons, he crossed the Falls of Niagara on a tight-rope in five minutes; on July 4, he crossed blindfold, trundling a wheelbarrow; on Aug. 19, he carried a man on his back; on Sept. 14, 1860, he crossed on stilts in the presence of the Prince of Wales. His last appearance was in 1888. He died Feb. 22. 1897.

Blood, the fluid which circulates through the arteries and veins of the human body and that of other animals, which is essential to the preservation of life and nutrition of the tissues. In insects and in others of the lower animals there is an analogous fluid which may be colorless, red, bluish, greenish, or milky. The venous blood of mammals is a dark red, but in passing through the lungs it becomes oxidized and acquires a bright scarlet color, so that the blood in the arteries is of a brighter hue than that in the veins. The central organ of the blood circulation is the heart. The specific gravity of blood varies from 1.045 to 1.075, and its normal temperature is 99° Fahr. 1000 parts contain 783.37 of water, 2.83 fibrin, 67.25 albumen, 126.31 blood corpuscles, 5.16 fatty matters and salts. The blood corpuscles or globules are characteristic. These are minute, red and white bodies floating in the fluid of the blood. The red ones give color, and are flattish discs, oval in birds and reptiles, and round in man and most mammals. In man they average 1-3300th inch in diameter, and in the Proteus, which has them larger than any other vertebrate, 1-400th inch in length and 1-727th in breadth. The white or colorless corpuscles are the same as the lymph or chyle corpuscles, and are spherical or lenticular, nucleated, and granulated, and rather larger than the red globules.

Blood, Council of, the name popularly applied to the Council of Troubles, established by the Duke of Alva, in the Netherlands, in 1567. Although it had no charter or authority from any source, it was omnipotent and superseded all other authorities. In the first three months alone its victims numbered 1,800, and soon there was hardly a Protestant house in the Netherlands that had not furnished a victim.

Blood-hound, a variety of hound or dog, so called from the ability which it possesses to trace a wounded animal by the smell of any drops of blood which may have fallen from it.

Blood Indians, a tribe of North American Indians of the Siksika Confederacy, dwelling in the Northwest Territories of Canada; known also as Kino Indians.

Blood Poisoning, a name loosely used of pyæmia and allied diseases.

Blood-vessels, the tubes or vessels in which the blood circulates. They are divided into two classes—arteries and veins—which have two points of union or connection—the first in the heart, from which they both originate, and the other in the minute vessels or network in which they terminate.

Bloody Assizes, the name given by the people to those courts which were held in England by the infamous Judge Jeffreys, in 1685, after the suppression of the Duke of Monmouth's rebellion. Upward of 300 persons were executed after short trials; very many were whipped, imprisoned and fined; and nearly 1,000 were sent as slaves to the American plantations, some of whom established families.

Bloody Falls, the lowest cataract of the Copper Mine river in the North-

west Territories of Canada; so named because of a massacre here of Eskimos by Chippewa Indians, in 1770.

Bloody Mary, an epithet popularly applied to Mary, Queen of England, on account of the persecutions of the Protestants during her reign.

Bloomer, Amelia Jenks, an American reformer, born in Homer, N. Y., May 27, 1818; died in 1894. She will be remembered because of her adoption of a costume of a short skirt and Turkish trousers.

Bloomfield, a town in Essex county, N. J.; on the Morris canal, several railroads, and a trolley line connecting it with all nearby cities; 10 miles N. W. of New York city; founded in 1685; is the seat of a German theological seminary and of a noted mountainside hospital; manufactures organs, hats, shoes, rubber goods, electric elevators, and paper; and is the residence of many New York business men. Pop. (1910) 15,070.

Bloomfield, Maurice, an American educator, born in Bielitz, Austria, Feb. 23, 1855; came to the United States in 1857; became an Associate in Johns Hopkins University in 1881; and subsequently Professor of Sanskrit and Comparative Philology there.

Bloomington, city and capital of McLean county, Ill.; on several railroads; 60 miles N. E. of Springfield; is the seat of the Illinois Wesleyan University, of a Roman Catholic college, and of the general offices of the Chicago & Alton railroad; and nearby are the State Normal University and the State Soldiers' Orphans' Home. The city has important manufactures, is in a rich corn and oat section, and has large interests in raising cattle, swine, and fine horses. Pop. (1910) 25,768.

Blouet, Paul (MAX O'RELL), a French lecturer and author, born in Brittany, France, March 2, 1848. After the publication of his first book, "John Bull and His Island" (1883), he devoted himself to literature. He made several lecturing tours of the United States. Died in Paris, June, 1903.

Blount, James H., an American legislator, born in Macon, Ga., Sept. 12, 1837. He made his first appearance in public affairs in 1872, when he was elected to Congress from the Sixth District of Georgia. He held his seat by successive re-elections till 1893, when he declined a further term. As he finished his last term the House paid him the unusual honor of suspending its proceedings to give the members an opportunity to testify to their appreciation of his worth. In his last term he was Chairman of the Committee on Foreign Affairs, and his familiarity with American relations with other countries led President Cleveland to appoint him a Special Commissioner to Hawaii in March, 1893, for the purpose of investigating the deposition of the royal government and the establishment of the American protectorate over the kingdom. On his arrival in Honolulu he at once caused the American flag to be hauled down from the Provisional Government House, and the United States marines to be withdrawn from the locality. This proceeding led to considerable excitement in the United States; the withdrawal of United States Minister Stevens from Honolulu; the appointment of Commissioner Blount as his successor; and a renewal both in Washington and Honolulu of the agitation for the annexation of Hawaii to the United States. On the completion of his mission Minister Blount resumed private practice at his home. Died March 6, 1903.

BLOW-FLY.

Blow Fly, the name popularly given to such two winged flies as deposit eggs in the flesh of animals, thus making tumors arise. Several species of musca do this, so do breeze flies, etc.

Blowing Machine, an apparatus for producing an air blast for metallurgical purposes.

Blowitz, Henry Georges Stephane Adolphe Opper de, a French journalist, born in Pilsen, Austria, Sept. 28, 1832; settled in France; was successively appointed Professor of German in the Lycee of Tours and at Limoges, Poitiers, and Marseilles; was naturalized a French citizen in 1870; and became the Paris correspondent of the London "Times" in 1871. He died January 19, 1903.

Blowpipe, a small instrument used in the arts for glass blowing and soldering metals, and in analytical chemistry and mineralogy, for determining the nature of substances by the action of an intense and continuous heat. Its utility depends on the fact, that when a jet of air or oxygen is thrown into a flame, the rapidity of combustion is increased, while the effects are concentrated by diminishing the extent or space originally occupied by the flame.

Blowpipe, a kind of weapon much used by some of the Indian tribes of South America, both in war and for killing game. It consists of a long, straight tube, in which a small poisoned arrow is placed, and forcibly expelled by the breath.

Blubber, the fat of whales and other large sea animals, from which train oil is obtained. The blubber lies under the skin and over the muscular flesh. It is eaten by the Eskimos and the seacoast races of the Japanese Islands, the Kuriles, etc. The whole quantity yielded by one whale ordinarily amounts to 40 or 50, but sometimes to 80 or more hundred weights.

Blucher, Gebhard Leberecht von, a distinguished Prussian General, born at Rostock, Mecklenburg-Schwerin, Dec. 16, 1742. He entered the Swedish service when 14 years of age and fought against the Prussians, but was taken prisoner in his first campaign, and was induced to enter the Prussian service. Discontented at the promotion of another officer over his head, he left the army, devoted himself to agriculture, and by industry and prudence acquired an estate. After the death of Frederick II. he became a Major in his former regiment, which he commanded with distinction on the Rhine in 1793 and 1794. After the battle of Kirrweiler in 1794 he was appointed Major-General of the Army of Observation stationed on the Lower Rhine. In 1802, in the name of the King of Prussia, he took possession of Erfurt and Muhlhausen. Oct. 14, 1806, he fought at the battle of Auerstadt. After the Peace of Tilsit he served in the Department of War at Konigsberg and Berlin. He then received the chief military command in Pomerania, but at the instigation of Napoleon was afterward, with several other distinguished men, dismissed from the service. In the campaign of 1812, when the Prussians assisted the French, he took no part; but no sooner did Prussia rise against her oppressors than Blucher, then 70 years old, engaged in the cause with all his former activity, and was appointed commander-in-chief of the Prussians and the Russian corps under General Winzingerode. His heroism in the battle of Lutzen (May 2, 1813), was rewarded by the Emperor Alexander with the Order of St. George. The battles of Bautzen and Hanau, those on the Katzbach and Leipsic, added to his glory. He was now raised to the rank of Field-Marshal, and led the Prussian army which invaded France early in 1814. After a period of obstinate conflict the day of Montmartre crowned this campaign, and, March 31, Blucher entered the capital of France. His King, in remembrance of the victory which he had grained at the Katzbach, created him Prince of Wahlstadt, and gave him an estate in Silesia. On the renewal of the war in 1815 the chief command was again committed to him, and he led his army into the Netherlands. June 15 Napoleon threw himself upon him, and Blucher, on the 16th, was defeated at Ligny. In this engagement his horse was killed, and he was thrown under his body. In the battle of the 18th Blucher arrived at the most decisive moment upon the ground, and taking Napoleon in the rear and flank assisted materially in completing the great victory of Belle Alliance or Waterloo. He was a rough and fearless soldier, noted for

his energy and rapid movements, which had procured him the name of Marshal Vorwarts (Forward). He died at Krieblowitz, Silesia, Sept. 12, 1819.

Blue, one of the seven colors into which the rays of light divide themselves when refracted through a glass prism, seen in nature in the clear expanse of the heavens; also a dye or pigment of this hue.

Blue, Victor, an American naval officer, born in Marion, S. C., Dec. 6, 1865; entered the United States Naval Academy in 1883; was commissioned a passed naval cadet in 1887; transferred to the Engineer Corps in 1889, and promoted to Ensign, Dec. 12, 1892. After serving on the "Alliance" and "Thetis" he was assigned to duty at the Naval Academy in 1896, and early in 1898 was promoted to Lieutenant, junior grade. Soon after the declaration of war against Spain he was promoted to full Lieutenant. He traversed the enemy's lines during the bombardment of Santiago de Cuba in the Spanish-American War, and reported the location of Cervera's vessels.

Blue Beard, the name of the blood thirsty husband in the familiar tale of "Blue Beard," best described in Perrault's "Tales" (1697). The original of this monstrous personage was a character celebrated in Breton legend, Gilles de Laval, Baron de Retz (1396–1440), famous in the wars of Charles VII. According to tradition he used to entice the children of peasants into his castle, and there sacrifice them to the Devil and practice sorcery with their remains. After 14 years of such a course he grew so bold that his crimes were discovered, and a heap of children's bones found in his castle. He was condemned to death, strangled, and his corpse burned at the stake at Nantes in 1440. Another Breton legend represents de Retz with a red beard about to marry a beautiful girl after having already made away with seven wives. The bride expostulates at the altar. De Retz offers her fine clothes, castles, all his possessions, finally his body and soul. "I accept!" shrieks the bride, turning into a blue devil and making a sign which transforms de Retz's beard from red to blue. Henceforth he belonged to Hell, and became the dread of the country round, under the name of Blue Beard.

Blue Berry, a name given in the United States to the genus vaccinium, that which contains the bilberry, called in Scotland the blae berry.

Blue Bird, a beautiful bird. Its whole upper parts are sky blue, shot with purple, with its throat, neck, breast, and sides reddish chestnut, and part of its wings and its tail feathers black.

Blue Book, a printed volume, issued by authority of the British Parliament containing a report.

Blue Bottle, a two-winged fly, the body of which has some faint resemblance to a bottle of blue glass.

Bluefields, town, seaport, and capital of the former Mosquito Indian Reservation; now the Department of Zelaya, Nicaragua, on the Atlantic coast near the mouth of the Bluefields river, and 165 miles E. of Managua. The reservation lies along the Atlantic coast extending S. almost to Graytown, one of the termini of the projected Nicaragua canal.

Blue Fish, a species of coryphæna found in the Atlantic; also, a fish like a mackerel but larger, found on the Atlantic coast, and sometimes called horse mackerel and salt water tailor.

Blue Grass, a grass cultivated for pasturage in Northern and Central Kentucky, deriving its name from the underlying strata of blue limestone which gives it a luxuriant growth.

Blue Hen State, a sobriquet for the State of Delaware. During the War for Independence, a certain popular officer of Delaware, named Captain Caldwell, asserted that a game cock to be unconquerable must be "a blue hen's chicken." This name was at once applied to his regiment and later to the State and its people.

Blue Jay, a common North American bird of the crow family, and occupying in the New World the place held by the jays of the Old.

Blue Laws, a name given to certain rulings or decisions of colonial magistrates reported by Rev. Samuel A. Peters, a Church of England clergyman, of Connecticut, as the actual laws of the New Haven colony.

Though one of them forbade a woman to kiss her child on the Sabbath or a fast day, and another provided in what fashion men should cut their hair, they have been soberly accepted by great numbers of people as actually enacted laws, illustrative of Puritan illiberality. They appear in Peters' "General History of Connecticut," and were evidently a somewhat spiteful satire upon the Puritan legislation, which contained many statutes concerning Sabbath observances and the vices of drinking and gambling that would now be deemed inquisitorial. The term is generally applied to any law one does not like that affects personal habits.

Blue Monday, in Bavaria and some other parts of Europe, a name formerly given to the Monday before Lent, when the churches were decorated with blue. It was kept as a holiday by classes whose ordinary avocation required them to labor on Sundays. As this led to violent disturbances the custom was legally abolished.

Blue Mountains, a beautiful wooded range of mountains in Oregon, from 8,000 to 9,000 feet high, which, with the Powder River Mountains, separate the Columbia valley from the Great Basin.

Blue Mountains, the central mountain range of Jamaica, the main ridges of which are from 6,000 to 8,000 feet high.

Blue Point, the S. extremity of Patchogue Bay, Long Island, N. Y., which lends its name to the well known oysters — blue points.

Blue Print Paper, paper sensitized by potassium ferricyanide and citric acid; used for making blue print photographs and print plans, mechanical drawings, etc., giving white lines on blue ground.

Blue Ridge, the most easterly range of the Alleghany Mountains. It forms the continuation of the chain called South Mountain in Pennsylvania and Maryland. It is known as the Blue Ridge till it crosses the James river; thence to North Carolina as Alleghany Mountains; and in North Carolina again as Blue Ridge.

Blue Stockings, a literary woman, generally with the imputation that she is more or less pedantic. Boswell, in his "Life of Johnson," states that in his day there were certain meetings held by ladies to afford them opportunity of holding converse with eminent literary men. The most distinguished talker at these gatherings was a Mr. Stillingfleet, who always wore blue stockings. His absence was so felt that the remark became common, "We can do nothing without the blue stockings." Hence the meetings at which he figured began to be called sportively Blue Stocking Clubs, and those who frequented them blue stockings.

Blum, Robert, a German Liberal leader, born in very humble circumstances at Cologne, Nov. 10, 1807; was secretary and treasurer of a theater at Cologne, and subsequently at Leipsic, until 1847, when he established himself as bookseller and publisher. His leisure was devoted to literature and politics, and in 1840 he founded at Leipsic the Schiller Society, which celebrated the poet's anniversary, as a festival in honor of political liberty. When the revolutionary movement broke out in 1848, he was one of its foremost leaders. At Vienna he joined the insurgents, was arrested, and was shot on Nov. 9.

Blumenbach, Johann Friedrich, a German naturalist, born in Gotha, May 11, 1752. He advocated the doctrine of the unity of the human species, which he divided into five varieties, Caucasian, Mongolian, Negro, American, and Malay. His anthropological treatises, and memoirs of his life by Marx and Flourens, were translated into English. He died in Gottingen, Jan. 22, 1840.

Blunderbuss, a short gun, unrifled and of large bore, widening toward the muzzle. It is by no means to be ranked with arms of precision, but is loaded with many balls or slugs, which scatter when fired, so that there is a certainty of some one of them hitting the mark.

Blunt, Edmund March, an American author, born in Portsmouth, N. H., June 20, 1770; was noted for his publication of the "American Coast Pilot" (1796), describing all the coasts of the United States, and containing a vast amount

of invaluable information for seamen. More than 30 editions of this work have been published, and it is still in use in the United States and the principal European countries, having been translated into nearly every foreign language. He also compiled a number of nautical books and charts. He died in Sing Sing, N. Y., Jan. 2, 1862.

Blunt, George William, an American hydrographer, born in Newburyport, Mass., March 11, 1802; a son of Edmund March Blunt. He went to sea when 14 years old and served as a sailor till nearly 21; and in 1822–1866 was a publisher of charts and nautical books in New York. He made original surveys of many American harbors; was one of the committee that organized the present system of pilotage for New York city; made several revisions of the "American Coast Pilot;" and was influential in causing the Federal Government to adopt the French system of lighthouses and to organize the Lighthouse Board. He died in New York city, April 19, 1878.

Blunt, Stanhope English, an American military officer; born in Boston, Mass., Sept. 29, 1850; was graduated at the United States Military Academy and commissioned 2d lieutenant in 1872. He rose through the ranks to major in the ordnance department.

Blushing, a sudden reddening of the skin, induced by various mental states, particularly those involving shame or humiliation, shyness or modesty.

Blyden, Edward Wilmot, a negro author, born at St. Thomas, W. I., Aug. 3, 1832. After vainly seeking, in 1845, admission to some college in the United States, he went to Liberia, and graduated at the Alexander High School, of which he afterward became principal. In 1880 he became President of Liberia College, has held important government positions, and was commissioner to the Presbyterian General Assembly of the United States in 1861 and 1880.

Blythe, Herbert (better known as Maurice Barrymore), an American actor; born in India in 1847; was graduated at Cambridge University, England; studied for the civil service; was admitted to the bar but did not practise this profession, giving it up for the stage. Died March 25, 1905.

Boa, the name of a genus of reptiles belonging to Cuvier's tribe of serpents proper.

The species properly belonging to this genus are among the largest of the serpent tribe, some of them, when full grown, being 30, and even 40 feet long. Though destitute of fangs and venom, nature has endowed them with a degree of muscular power which renders them terrible. Happily, they are not common in situations much frequented by mankind, but are chiefly found in the vast marshy regions of Guiana and other hot parts of the American continent.

Boabdil (properly Abu-Abdallah, and nicknamed Ez-Zogoiby, "the unlucky"), the last Moorish King of Granada, dethroned his father, Abu-l-Hasan, in 1481, and two years later was defeated and taken prisoner by the Castilians near Lucena. He was set free on condition of paying tribute, and returned to Granada to struggle with his father and with his heroic uncle, Ez-Zaghal, for the throne. Going to Africa, he there flung away his life in battle.

Boadicea, Queen of the Iceni, in Britain, during the reign of Nero. Having been treated in the most ignominious manner by the Romans, she headed a general insurrection of the Britons, attacked the Roman settlements, reduced London to ashes, and put to the sword all strangers to the number of 70,000. Suetonius, the Roman general, defeated her in a decisive battle (A. D. 62), and Boadicea, rather than fall into the hands of her enemies, put an end to her own life by poison.

Boanerges, a Greek word translated in Mark iii: 17, "sons of thunder." It is of doubtful etymology, but is probably the Aramaic pronunciation of Hebrew beni regesh, regesh in Hebrew meaning tumult or uproar, but in Arabic and Aramæan thunder. It is an appellation given by Christ to two of His disciples, the brothers James and John, apparently on account of their fiery zeal.

Boardman, George Dana, an American missionary, born in Liver-

more, Me., Feb. 8, 1801. He studied at Andover and was ordained in the Baptist Church. In 1825 he went to Burma, where he labored assiduously in spreading Christianity. The mission planted by him became the central point of all Baptist missions in Burma. He died in Burma, Feb. 11, 1831.

Boardman, George Dana, an American clergyman and author, born in Tavoy, British Burma, Aug. 18, 1828; son of the American Baptist missionary of the same name. He was educated in the United States, graduating at Brown University in 1852, and at Newton Theological Institution in 1855. He became pastor at Barnwell, S. C.; afterward at Rochester, N. Y., till 1864, when he became pastor of the First Baptist Church in Philadelphia. Died 1903.

Boardman, Richard, an English missionary, born in 1738. He became a member of Wesley's conference in 1763, and volunteered for service in America in 1769. He preached in New York and through the Middle States till 1774, and then, returning to England, continued his itinerant ministry. He is known as one of the founders of Methodism in the United States. He died in Cork, Ireland, Oct. 4, 1782.

Boas, Franz, a German ethnologist, born in Minden, Westphalia, July 9, 1858; studied at Heidelberg, Bonn, and Kiel Universities, in 1877–1882; traveled in the Arctic regions in 1883–1884; was assistant in the Royal Ethnographical Museum in Berlin, and privat docent in geography at the University in 1885–1886; and teacher of anthropology in Clark University, Worcester, Mass., in 1888–1892

Boat Bill, the English name of a genus of birds belonging to the true herons. The bill, from which the English name comes, is very broad from right to left, and looks as if formed by two spoons applied to each other on their concave sides. It inhabits the hot and humid parts of South America.

Boatswain, an officer on board a ship, whose function it is to take charge of the rigging, cables, cordage, anchors, sails, boats, flags and stores. He must inspect the rigging every morning and keep it in good repair; and must either by himself or by deputy steer the life boat. If on a ship of war he must call the men to their duty by means of a silver whistle given him for the purpose; besides taking into custody those condemned by a court martial, and, either by himself or by deputy, inflict on them the punishment awarded.

Boaz, a Bethlehemite of means, who took upon himself the duty of providing for Ruth, as the near relation of her dead husband's family. From him Jesus Christ was directly descended.

Bobbin, a reel or other similar contrivance for holding thread.

Bobbin Net, a machine made cotton net, originally imitated from the lace made by means of a pillow and bobbins.

Bobolina, a Greek woman, celebrated for her courage in aid of the Greek revolt. After her husband had been slain by the Turks in 1812, she resolved to avenge his death. In 1821, she equipped three vessels at her own expense, fought with extraordinary courage at Tripolitiza and Naupha and was killed in action, in 1825.

Bob-o-link, Boblink, Reed Bird, or **Rice Bird,** a common American bird found from Paraguay to Canada, the only one of its kind, and that difficult to classify. Some place it near the Baltimore bird, others near starlings, but both the characteristics and the character of the bob-o-link exhibit much that is unique.

The name — originally Bob Lincoln — is an imitation of the bird's note. In song, the full throated male bob-o-link is unique, rivaling the lark, inimitable by the mocking bird.

Bob White, popular name of a small game bird of the United States, given because of its peculiar call. In the Northern States it is known as QUAIL, and in the Southern as PARTRIDGE.

Boccaccio, Giovanni, an Italian novelist and poet, son of a Florentine merchant, born in 1313; died in Certaldo, in 1375.

Bock, Karl Ernst, a German anatomist, born in 1809; died in

1847. His title to fame rests chiefly on his "Handbook of Human Anatomy."

Bock Beer. (See BEER).

Bode, John Elert, German astronomer, born 1747, died 1826. His best works are his Astronomical Almanac and his large Celestial Atlas (Himmelsatlas), giving a catalogue of 17,240 stars (12,000 more than in any former chart).—*Bode's Law* is the name given to an arithmetical formula, previously made known by Kepler and Titius of Wittenberg, expressing approximately the distances of the planets from the sun. It assumes the series 0, 3, 6, 12, 24, 48, 96, etc., each term after the second being double the preceeding term; to each term 4 is added, producing the series 4, 7, 10, 14, 28, 56, 100, etc. These numbers are, with the exception of 28, roughly proportional to the distances between the planets and the sun. The law has no theoretical foundation.

Bodin, Jean, a French political writer; born in 1530, or 1529. His great work "De la République" (1576) has been characterized as the ablest and most remarkable treatise on the philosophy of government and legislation produced from the time of Aristotle to that of Montesquieu. According to his view, the best form of government is a limited monarchy. He died in Laon in 1596.

Bodleian, or Bodleyan, Library, a library founded at Oxford, England, by Sir Thomas Bodley, in 1597. All members of Oxford University who have taken a degree are allowed to read in it, as are literary men of all countries.

Bodmer, Georg, a Swiss inventor, born in Zurich, Dec. 6, 1786. He invented the screw and cross wheels; and made valuable improvements in fire arms and in various kinds of machinery, particularly in that of wool spinning. He died in Zurich, May 26, 1864.

Bodmer, Johann Jakob, a Swiss literary critic, born near Zurich, July 19, 1698; was the first to make English literature known in Germany; and wrote dramas, and epics. He was leader of the movement which released German literature from French classicism. He died Jan. 2, 1783.

Boece, or Boyce, Hector, a Scottish historian, born in Dundee about 1465; died in 1536.

Boehm, Sir Joseph Edgar, a British sculptor, born in Vienna, July 6, 1834. He executed busts of Gladstone, John Bright, John Ruskin, etc., and designed the effigy of Queen Victoria for the coinage commemorative of the 50th year of her reign. He died in London, Dec. 12, 1890.

Boehme, Jacob, a German mystical writer, born in 1575. A sect, taking their name from Boehme, was formed in England. He died in 1624.

Boeotia, a division of ancient Greece, lying between Attica and Phocis, and bounded E. and W. by the Eubœan Sea and the Corinthian Gulf respectively, had an area of about 1,100 miles square miles. Along with Attica, Bœotia now forms one of the nomes of the Kingdom of Greece, with a population of about 57,000.

Boerhaave, Hermann, a celebrated Dutch physician, one of the most influential medical authorities living in the 18th century; born in Woorhout, near Leyden, Dec. 12, 1668. He died Sept 23, 1738.

Boers (Dutch, boer, a peasant or husbandman), the name commonly applied to the South African colonists of Dutch descent.

Boethus, a Greek sculptor, born in Chalcedon in the 2d century B. C. He is celebrated for his statues of children.

Boethius, Anicius Manlius Severinus, a Roman statesman and philosopher, called "the last of the classic writers"; born in Rome or Milan, of an ancient family, about A. D. 470; was educated in Rome, in a manner well calculated to develop his extraordinary abilities. Theodoric, King of the Ostrogoths, then master of Italy, loaded him with marks of favor and esteem, and raised him to the first offices in the empire.

Later, however, he was accused of a treasonable correspondence with the court of Constantinople. He was arrested, imprisoned, and executed A. D. 524 or 526.

Bog, a piece of wet, soft, and spongy ground, where the soil is composed mainly of decaying and decayed vegetable matter. Such ground is

valueless for agriculture until reclaimed, but often yields abundance of peat for fuel.

Bogardus, Everardus, a minister of the Dutch Reformed Church in New Amsterdam, now New York; husband of Anneke Jans. The latter owned a farm of 60 acres, comprising now one of the most valuable sections of New York city. The Bogardus heirs have for many years endeavored unsuccessfully, to recover this property, which is held by the corporation of Trinity Church. He died Sept. 27, 1647.

Bogardus, James, an American inventor, born in Catskill, N. Y., March 14, 1800; was apprenticed to a watchmaker, and early showed the bent of his mind by improvements in the construction of eight-day clocks, and by the invention of a delicate engraving machine. The dry gas meter is his invention, as is also the transfer machine to produce bank note plates from separate dies; and in 1839 his plan for manufacturing postage stamps was accepted by the British Government. Later he introduced improvements in the manufacture of india rubber goods, tools, and machinery; and invented a pyrometer, a deep sea sounding machine, and a dynamometer. He died in New York, April 13, 1874.

Boggs, Charles Stuart, an American naval officer, born in New Brunswick, N. J., Jan. 28, 1811; entered the navy in 1826; served on the "Princeton" in the Mexican War; was assigned to the gunboat "Varuna" in Farragut's Gulf Squadron in 1861. In the attack on Forts St. Philip and Jackson, in April, 1862, he destroyed six Confederate gunboats and two rams, and in the last moments of the fight his own vessel was sunk. In 1869–1870 he served with the European Squadron; in the latter year was promoted to Rear-Admiral; and in 1873 was retired. He died in New Brunswick, April 22, 1888.

Bogomilian, a Sclavonic Christian sect, founded in the 12th century by a monk called Basil. His tenets were akin to those of the Manicheans and of the Gnostics. He believed that the human body was created by a demon cast from Heaven, and was burned for his heresy.

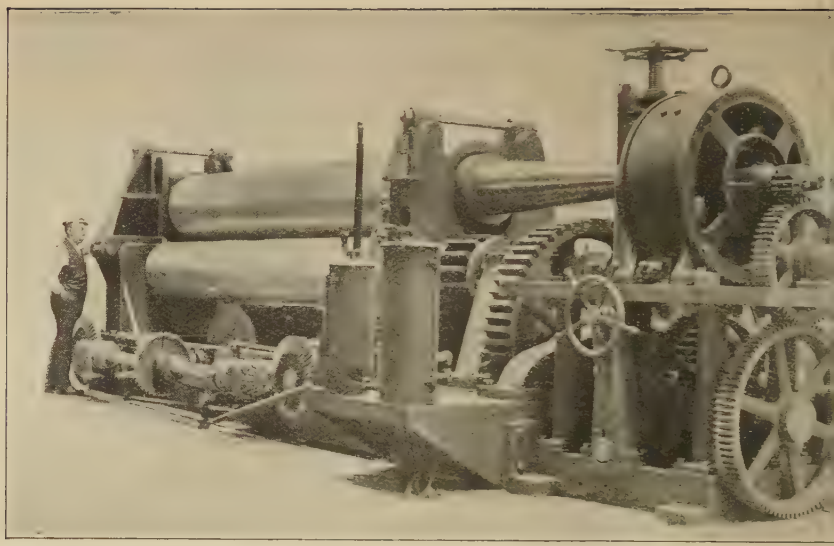
Bogoslof Islands, a volcanic triplet in the Aleutian chain. The first appeared May, 1796; the second Sept., 1883; the third May, 1906, after the San Francisco earthquake.

Bogota, capital of the United States of Colombia, situated within the limits of the province of Cundinamarca, on a tableland which, at an elevation of 8,694 feet above the sea, separates the basin of the Magdalena from that of the Orinoco. The tableland has an area of about 400 square miles, and is bounded on all sides by mountains, which, though lofty enough to give shelter, are yet below the line of perpetual snow. This extensive plain — a temperate zone on the verge of the equator, with a salubrious climate and an average temperature of 60° F. — is exceedingly fertile, being as rich in pasture as in grain. The few manufactures of the city include soap, leather, cloth, and articles made from the precious metals. In 1800 it contained 21,464 inhabitants, and in 1821, 30,000; its population in 1902 was 120,000.

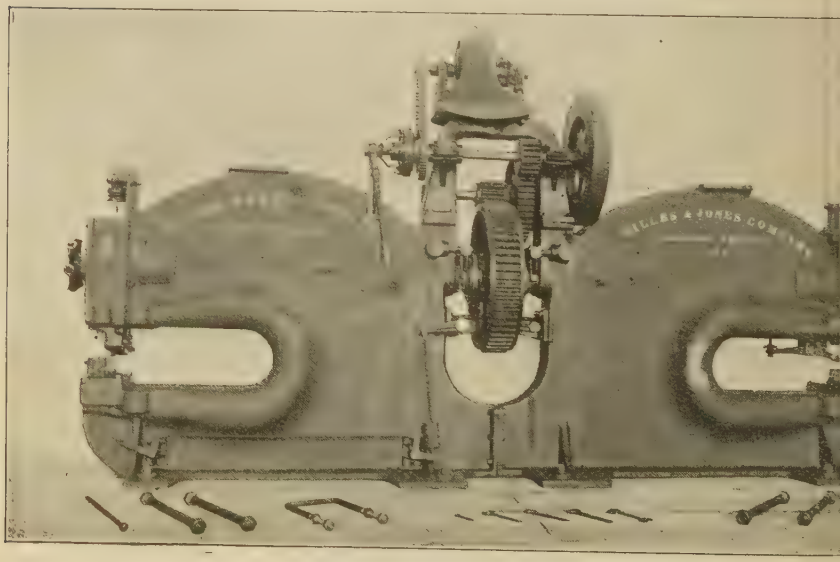
Bog Spavin, an encysted tumor filled with gelatinous matter inside the hock of a horse.

Bogue, David, one of the founders of the London Missionary Society, was born in Berwickshire, in 1750. Bogue also took an active part in the establishment of the British and Foreign Bible Society and the Religious Tract Society. He was on the point of going as a missionary to India in 1796, when the East India Company refused to sanction the scheme. Bogue died at Brighton, Oct. 25, 1825.

Bohemia, a former Kingdom, now a Province of the Austro-Hungarian monarchy (Austrian or Cisleithan portion), bounded by Bavaria, Saxony, the Prussian Province of Silesia, Moravia, and the Archduchy of Austria; area about 20,060 square miles, of which less than 1 per cent. is not tillable. Population (1900) 6,318,697, (over 2,000,000 Germans). The prevailing religion is the Roman Catholic, the country being an archbishopric with three bishoprics. The language of the country is the Czech dialect of the Slavonic in some districts, and in most

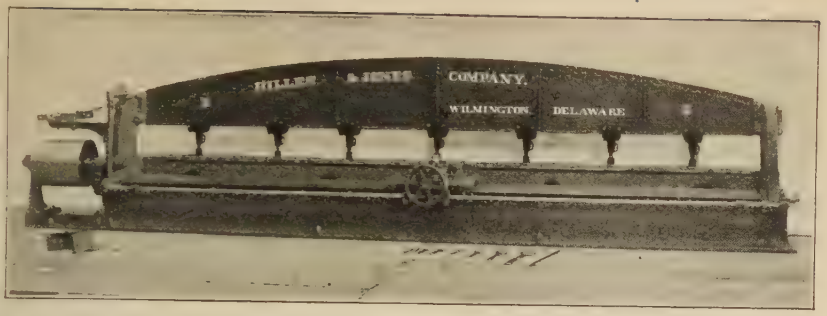


BENDING ROLLS



COMBINED SHEARING AND PUNCHING MACHINE

MODERN PLATE W



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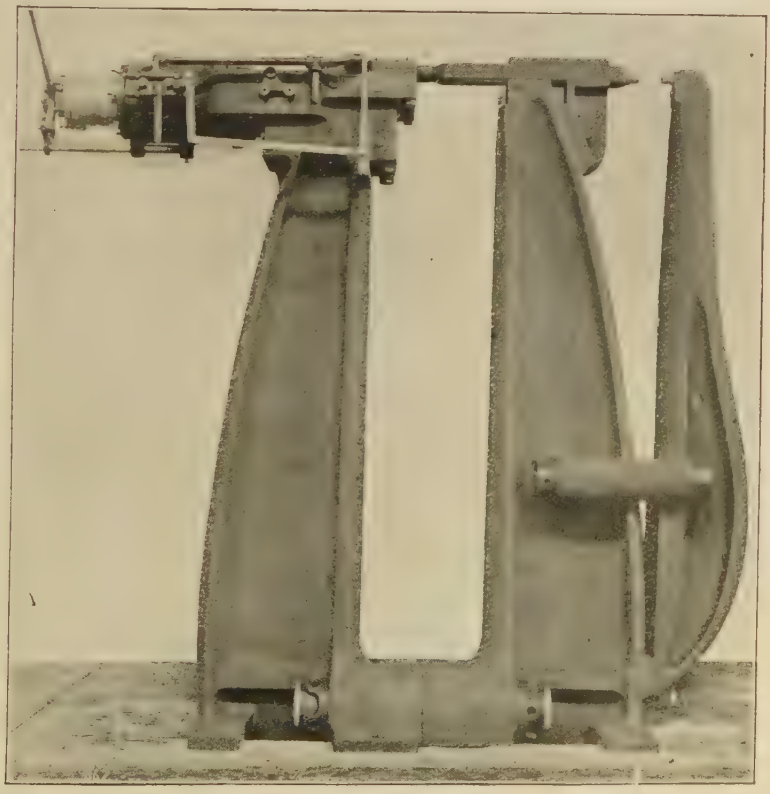

RIVETING MACHINE

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of the cities, German is spoken. Bohemia is surrounded on all sides by mountains, and has many large forests. Its plains are remarkably fertile. The chief rivers are the Elbe and its tributary the Moldau, which is even larger.

Bohlen Lectures, a lecture course on a foundation of $10,000 furnished by John Bohlen, a lay member of the Protestant Episcopal Church. They are delivered each year in Philadelphia, Pa., by eminent representatives of that Church.

Bohol, one of the Philippine Islands, belonging to the Visayas or Bisayas group. It has an area of about 1,300 square miles and a population of 245,000. Sugar cane is grown and the island is reputed rich in gold deposits.

Boiardo, Matteo Maria, Count of Scandiano, one of the greater Italian poets, was born in 1434 at Scandiano, a village situated at the foot of the Lombard Apennines. He died at Reggio, in 1494.

Boieldieu, Francois Adrien, a French musical composer, born in 1775; died in 1835.

Boies, Horace, an American lawyer, born in Aurora, Erie co., N. Y., Dec. 7, 1827. His opposition to the tariff and prohibition policy of the Republican Party caused him to unite with the Democrats; and, in 1890–1894, he served two terms as Governor of Iowa, being defeated for a third term in 1893. He was a conspicuous candidate for the presidential nomination in the National Democratic Conventions in 1892 and 1896; and in the campaign of 1896 he supported Mr. Bryan.

Boii, a powerful Celtic people who dwelt originally in Transalpine Gaul, part of whom settled in the modern Bohemia, and bequeathed their name to that country.

Boil, a disease called by medical men furunculus. It is a phlegmonous tumor, which rises externally, attended with redness and pain, and sometimes with a violent, burning heat. Ultimately it becomes pointed, breaks, and emits pus. A substance called the core is next revealed. It is purulent, but so thick and tenacious that it looks solid, and may be drawn out in the form of a cylinder, more pus following. The boil then heals. A blind boil is one which does not suppurate.

Boileau, Nicolas, a French poet, born at Paris, Nov. 1, 1636. He died March 13, 1711.

Boiler, the name applied to any vessel or cauldron for boiling large quantities of liquor, but most commonly used as the designation of a metallic vessel in which water is converted into steam by the action of fire, the steam being intended by its expansive force to give motion to a steam engine, or to be used for a variety of manufacturing purposes. Boilers may be subdivided into the following clases: (a) Shell or tank boilers. (b) Water-tube boilers.

Boiling, in general, the change of a substance from the liquid to the gaseous state which takes place throughout the liquid. The boiling point, in science, is the point or degree of the thermometer at which any liquid boils.

Boisard, Francois Marie, a French fabulist, born in 1774; died in 1833.

Bois d'Arc (sometimes corrupted into Bodock), also bow-wood, or osage orange, a tree which is a native of the Southern United States. Its large, beautiful orange like fruits are scarcely eatable, but its pines make it useful as a hedge plant. Its wood is strong, and hard, and elastic, and hence was used by the Indians in the manufacture of their bows.

Bois de Bologne, a pleasant grove near the gates on the W. of Paris, so named after the suburb Boulogne-sur-Seine.

Boise, city, capital of the State of Idaho, and county-seat of Ada co.; on the Boise river and the Union Pacific railroad; 45 miles S. W. of Idaho City. It occupies the site of a former trading post of the Hudson Bay Company; is in an agricultural and a rich mining region; and is supplied with pure hot water from a flowing boiling well. The city is said to be the only one in the world having a natural supply of hot water. Pop. (1910) 17,358.

Boise, James Robinson, an American educator, born in Bland-

ford, Mass., Jan. 27, 1815; died in Chicago, Feb. 9, 1895.

Boisgobey, Fortune-Abraham du, a French novelist, born in Granville, Sept. 11, 1821; died February, 1891.

Bok, Edward William, an American editor; born in 1863. He edited the "Ladies' Home Journal," and is a popular literary authority.

Boker, George Henry, an American poet and dramatist; born in Philadelphia, Pa., Oct. 6, 1823. He graduated from Princeton in 1842; studied law; and was United States minister to Turkey in 1871–1875, and to Russia in 1875–1879. He died Jan. 2, 1890.

Bokhara, a khanate of Central Asia, practically vassal to Russia, bounded on the N. by Russian Turkestan, W. by Khiva and the Russian Trans-Caspian Territory, S. by Afghanistan, and E. by Russian Turkestan. It formerly occupied considerably more territory than it does now, having been reduced by the conquests and encroachments of Russia, which have been only partially compensated by some additions. The present area of the khanate is estimated at about 80,000 square miles. The population is about 1,250,000.

Bokhara, the capital of the above khanate, is 8 or 9 miles in circuit, and is surrounded by a mud wall. It is poorly built, consisting of extremely narrow streets and paltry houses. The principal edifices are the palace of the khan, crowning a height near the center of the town and surrounded by a brick wall 70 feet high; and numerous mosques, the largest of which is enameled with tiles of azure blue, and has a tower 210 feet high. The trade was formerly large with India, but has now been almost completely absorbed by Russia. The pop. is estimated at 75,000.

Boldrewood, Rolf, pseudonym of Thomas Alexander Browne, an Australian author, born in England in 1827.

Boleyn, Anne, second wife of Henry VIII. of England, was the eldest daughter of Sir Thomas Boleyn, and Elizabeth Howard, daughter of the Duke of Norfolk. She was born according to some accounts, in 1507, but according to more probable ones about 1501. About 1522 she became lady of honor to Queen Catharine, whom she soon supplanted. The king, passionately enamored of her, found an unexpected opposition to his wishes, and Anne firmly declared that she could be had on no terms but those of marriage. She knew that the king already meditated a divorce from his wife, Catharine of Arragon; but she also knew what difficulties the Catholic religion opposed to the execution of this plan. Cranmer offered his services to bring about the accomplishment of the king's wishes, and thus gave the first occasion to the separation of England from the Roman Church. But the impetuous Henry did not wait for the ministers of this new religion to confirm his divorce; on the contrary, he married Anne in January, 1533, having previously created her Marchioness of Pembroke. Cranmer declared the first marriage void, and the second valid, and Anne was crowned queen at Westminster with unparalleled splendor. In 1533 she became the mother of the famous Elizabeth. She could not, however, retain the affections of the king, as inconstant as he was tyrannical; and as she had supplanted her queen while lady of honor to Catharine, she was now supplanted herself by Jane Seymour, her own lady of honor. She was tried and condemned to death on false charges of infidelity, and was executed May 19, 1536.

Bolingbroke, Henry St. John, Viscount, an English statesman and political writer; born in Battersea, near London, of an ancient family, in 1678. He died in Battersea in 1751.

Bolivar, Simon, an American military officer and statesman (named El Libertador, from his having rescued Central South America from the Spanish yoke), born in Caracas, July 24, 1783. At Venezuela he entered upon his military career as a colonel in the service of the newly founded republic. At length, in 1821, the Independent troops were successful in the battle of Carabobo, where the Royalists lost upward of 6,000 men, and which decided the cause against Spain. On Aug. 20 of the same year a Republican Constitution was adopted, and decreed to continue, as then

defined, till 1834. Bolivar was chosen President, and he turned his attention to the internal administration of the country. In 1823 he assisted the Peruvians to obtain their independence, and was declared their liberator, and invested with supreme authority. On Feb. 10, 1825, however, he convoked a Congress, and resigned his dictatorship. He now visited the Upper Provinces of Peru, which, calling a convention at Chuquisaca, gave the name of Bolivia to their country, in honor of their liberator, and appointed him Perpetual Protector, and to draw up a constitution. On May 25, 1826, he presented his Bolivian code to the Congres of Bolivia, which was afterward adopted, with some dissatisfaction, however, although it was also subsequently adopted by the Congress of Lima, where, under its provisions, he himself was elected President for life. He now set out for Colombia, where disaffection and party strife were at their height. His conduct here was misconstrued, and he was supposed to be assuming the powers of a dictator. In 1829 new disturbances arose, and, in 1830, a convention was called for the purpose of framing a new constitution for Colombia. The proceedings were begun by Bolivar, who once more tendered his resignation. This was his last act which had relation to public affairs. He died at San Pedro, near Carthagena, Dec. 17, 1830.

Bolivia, a republic of South America; bounded on the N. by Peru and Brazil; on the E. by Brazil and Paraguay; on the S. by the Argentine Republic and Chile; and on the W. by Peru and Chile; area about 515,000 square miles since the war of 1879-80. The population in 1900, estimated about 2,500,000. The capital and the largest city is La Paz; pop. (1900) 60,000.

Agriculture is still in a backward condition. Wheat, maize, barley, beans, and potatoes are produced for local consumption; coffee is raised chiefly for export; sugar cane is grown for distillation; and rubber, cinchona, and cocoa are important and increasing products. Cattle, sheep, and llamas are extensively bred. Bolivia has a very large mineral wealth in silver, copper, tin, lead, zinc, antimony, bismuth, gold, borax and salt. In a single year the production of silver, the most valuable mineral resource, aggregated 14,579,296 ounces, and averages 10,000,000 ounces.

The constitution (Oct. 28, 1880) vests the executive power in a President, elected by direct popular vote, for a term of four years, and ineligible for re-election at the end of his term of office. The legislative authority rests in a Congress, comprising a Senate of 18 members, elected for six years, and a Chamber of Deputies of 64 members, elected for four years. There are also two Vice-Presidents, and a Ministry divided into the Departments of Foreign Relations and Worship, Finances and Industry, Government and Colonization, Justice and Public Instruction, and War. The suffrage is possessed by all who can read and write. The republic is divided into eight departments and these into provinces and cantons. The Roman Catholic is the recognized religion of the republic, and the exercise of other forms of worship is permitted. Primary instruction is free and nominally obligatory, and is under the care of the several municipalities.

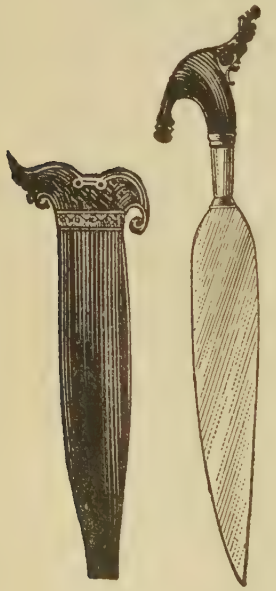
In 1879 Chile declared war against Bolivia. Peru came to the aid of the latter and the Chilians defeated their allied opponents. As a result of this war Bolivia mortgaged to Chile the Littoral Department, which has an area of 29,910 square miles, and contains the important port of Antofagasta, thus losing her entire seacoast.

Bollandist, pertaining to Bolland, a Jesuit of Tillemont, in Flanders, who commenced a large work, the "Acta Sanctorum," of which vol. I. was published in 1643. Five more were issued during his lifetime. After his death, in 1665, the work was continued by Henschen, a Jesuit of Antwerp, who died in 1682, and Papebroch, also an Antwerp Jesuit, who died in 1714. The word is also applied to the continuators of Bolland's work. A new association was formed in 1837 under the patronage of the Belgian government, and the publication of the "Acta Sanctorum" has been continued.

Bollworm, the caterpillar of the nocturnal moth, Heliothis Armigera.

The creature feeds on almost every variety of vegetable and cultivated crop, and is known in each locality by the name of the plant on which it feeds, as the corn-worm, tobacco-worm, cotton-worm, etc. Its first choice is cotton, and then corn, and in the South where both crops grow it has proven very destructive wherever it has been permitted to make headway. There are 4 or 5 broods each year; the July brood attacks corn, the August brood eats the cotton, and the last brood continues the race. It is as the cotton-worm that it is called boll-worm, as the young grub eats the unfolded boll or bud of the cotton plant. The general government is making strenuous efforts to kill the pest.

Bolo, a short, broad, lance-shaped weapon; used by the Filipinos in their



FILIPINO BOLO.

operations against the American troops. The blade is about 18 inches in length by nearly 3 inches in breadth at its broadest dimension. It tapers from the middle toward the haft as well as toward the point, making it strongly resemble the ancient short sword. It is not double edged, however, but tapers from a thick back to an extremely keen edge. In April 1904, the United States troops operating in the Philippines, were supplied with bolos.

Bologna, one of the oldest, largest and richest cities of Italy, capital of the Province of same name, in a fertile plain at the foot of the Apennines, between the rivers Reno and Savena, surrounded by an unfortified brick wall. In the 12th and 13th centuries it was one of the most flourishing of the Italian republics; but the feuds between the different parties of the nobles led to its submission to the papal see in 1513. Several attempts were made to throw off the papal yoke, one of which, in 1831, was for a time successful. In 1849 the Austrians obtained possession of it. In 1860 it was annexed to the dominions of King Victor Emmanuel. Population (1901) 152,009.

Bolognese School, an Italian school of painting, founded in the 14th century, probably by Franco. The great master of the school was Francesco Francia, a contemporary of Raphael, celebrated for the purity and serenity of his Madonnas.

Bolometer, a most sensitive electrical instrument invented by Langley in 1883 for the measurement of radiant heat.

Bolton Abbey, a notable English structure in Yorkshire; in a highly-picturesque district on the river Wharfe, 6 miles E. of Skipton, and 21 N. W. of Leeds. Founded for Augustinian canons about 1150, it has been celebrated by Wordsworth in "The White Doe of Rylstone" and "The Force of Prayer."

Bolton, Sarah Tittle, an American poet, born in Newport, Ky., Dec. 18, 1815. She is known for her patriotic and war poems, including "Paddle Your Own Canoe," "Left on the Battlefield," etc. She died in Indianapolis, Ind., Aug. 4, 1893.

Boma, city and capital of the Kongo Free State, on the left bank of the Kongo river, till 1876 was the extreme inland post of the Dutch and

Portuguese traders. It contains the establishment of the governor-general and also the local government of the administrative district of the same name. It is an important shipping centre with an extensive import and export trade.

Bomb, in ordnance, the same as a bomb shell; a hollow iron ball, spheroid, or anything similar, filled with gunpowder, and provided with a time or percussion fuse. It is fired from a mortar or howitzer.

Modern political upheavals have induced a traffic in packages of explosives, which have been christened bombs. These terrific agents of destruction have been used with murderous effect in the larger European cities: St. Petersburg, Madrid and Paris; also in Chicago. The anarchists have regularly established factories for the production of these missiles, in which the elements are combined with great nicety and scientific precision. The usual method of construction is to fill a hollow sphere with some high explosive together with pieces of scrap iron, nails, bullets, or anything that will wound.

Bomba, a title popularly conferred upon King Ferdinand II. of Naples and by which he will be recorded in history. This appellation he received from the violation of his solemn oath to the citizens of Palermo, which city he perfidiously bombarded in 1840; thus outraging his own plighted word, the laws of humanity, and the constitutional policy he had sworn to observe.

Bombardier Beetle, a name applied to many coleopterous insects. They are called bombardier beetles on account of a remarkable property they possess of violently expelling from the anus a pungent acrid fluid, which, if the species be large, has the power of producing discoloration of the skin, similar to that produced by nitric acid. It also changes blue vegetable colors to red, and then to yellow. Found in this country and the tropics.

Bombardment, an attack with bombs. Specifically, the act of throwing shells and shot into a town, fort, or ship.

Bombax, also known as the silk cotton tree. The fruit is larger than a swan's egg, and when ripe opens in five parts, displaying many roundish, pea-like seeds enveloped in dark cotton. This tree yields a gum, given in conjunction with spices in certain stages of bowel complaints. The five leaved silk cotton tree, rises to a great height. Its native country is South America and the adjacent West India Islands, where its immense trunk is scooped into canoes.

Bombay, the second largest of the nine great Provinces of British India. It stretches along the west of the Indian peninsula, and is irregular in its outline and surface, presenting mountainous tracts, low, barren hills, valleys, and high tablelands. It is divided into a Northern, a Central, and a Southern Division, the Sind Division, and the town and island of Bombay. Total area, 184,235 square miles; pop. (1901) 18,584,496, including the city and territory of Aden in Arabia, 70 square miles (pop. 44,079). The native or feudatory States connected with the province (the chief being Kathiawar) have an area of 65,761 square miles; pop. (1901) 6,908,648. The Portuguese possessions, Goa, Daman, and Diu, geographically belong to it. Many parts, the valleys in particular, are fertile and highly cultivated; other districts are being gradually developed by the construction of roads and railroads. The southern portions are well supplied with moisture, but great part of Sind is the most arid portion of India. The climate varies, being unhealthful in the capital, Bombay, and its vicinity, but at other places, such as Poonah, very favorable to Europeans. The chief productions of the soil are cotton, rice, millet, wheat, barley, dates, and the cocoa palm. The manufactures are cotton, silk, leather, etc. The great export is cotton. The administration is in the hands of a Governor and council. The chief source of revenue is the land, which is largely held on the rayatwar (small farmer) system. Revenue and expentiture (1902) $64,257,425 and $47,569,422.

Bombay, the chief seaport on the W. coast of India, and capital of the Province of the same name; at the southern extremity of the island of Bombay; is divided into two portions, one known as the Fort, and formerly

surrounded with fortifications, on a narrow point of land with the harbor on the E. side and Back Bay on the W.; the other known as the City, a little to the N. W. In the Fort are Bombay Castle, the Government offices, and almost all the merchants' warehouses and offices; but most of the European residents live outside of the mercantile and native quarters of the city in villas or bungalows. Bombay has many handsome buildings, both public and private, as the cathedral, the university, the secretariat, the high court, the post and telegraph offices, etc. Various industries, such as dyeing, tanning, and metal working, are carried on, and there are large cotton factories. The commerce is very extensive, exports and imports of merchandise reaching a total value of over $300,000,000 annually. The harbor is one of the largest and safest in India, and there are commodious docks. There is a large traffic with steam vessels between Bombay and Great Britain, and regular steam communication with China, Australia, Singapore, Mauritius, etc. The island of Bombay, which is about 11 miles long and 3 miles broad, was formerly liable to be overflowed by the sea, to prevent which substantial walls and embankments have been constructed. The harbor is protected by formidable rock batteries. After Madras, Bombay is the oldest of the British possessions in the East, having been ceded by the Portuguese in 1661. Pop. (1901) 770,843.

Bombazine, a mixed silk and woolen twilled stuff, the warp consisting of silk and the weft of worsted. Black bombazine has been much in use for mourning garments.

Bomb Lance, a harpoon used in whale fishing which carries a charge of explosive material in its head.

Bombon, a large, fresh water lake in Luzon, Philippine Islands, about 50 miles S. of Manila. It is 105 square miles in area. There is a small island in the center, from which rises the volcano of Taal, the lowest in the world, its height being only 850 feet. The waters of the lake find an outlet to the sea through the Pansipit river.

Bona Dea, a mysterious Italian goddess of fertility, who is variously described as the wife, sister, or daughter of Faunus. She was worshipped at Rome from the most ancient times, but only by women, even her name being concealed from men. Her sanctuary was a grotto on Mons Aventinus; but her festival (the 1st of May) was celebrated in the house of the consul. The solemnities were performed generally by high born vestals. At this celebration, no males were allowed to be present; even portraits of men were veiled. During the celebration in the house of Cæsar the infamous Clodius was discovered disguised as a female musician. The symbol of the goddess was a serpent.

Bona Fides, literally, good faith; honesty, as distinguished from mala fides (bad faith). The law requires all persons in their transactions to act with good faith; and a contract, when the parties have not acted bona fide, is void at the pleasure of the innocent party.

Bonanno, an Italian architect and sculptor of the 12th century. In 1174 he commenced, with Wilhelm of Innsbruck, the famous Leaning Tower of Pisa. He was also the designer of the celebrated bronze doors of the cathedral of that city, which were, all but one, destroyed by a conflagration in 1596.

Bonaparte (pronounced in Italian in four syllables; in French and English in three), the name of a famous family, which was spelt Buonaparte by the Emperor Napoleon and his father till 1796, though the more usual, modern form also occurs in old Italian documents. In the 13th century and afterward, several families named Bonaparte figure with distinction in Italian records — at Florence, San Miniato, Sarzano, and Genoa. But as the name of Bonaparte occurs in Corsica as early as the 10th century, it is probable that the island may have been their original home. In the 16th century mention is again found of the Bonapartes in Corsica, where in Ajaccio they occupied a respectable position as a patrician or leading family. In the 18th century this family was represented by three male descendants, all residing at Ajaccio: the archdeacon, LUCIEN BONAPARTE; his brother, NAPOLEON BONAPARTE; and his nephew, CHARLES.

Charles Bonaparte, father of the Emperor Napoleon, was born at Ajaccio in 1746; studied law at Pisa; and married, in 1767 — without the consent of his uncles — a beautiful young patrician lady, named Letizia Ramolino. He died in 1785.

Maria Letizia Ramolino, mother of Napoleon I., lived to see her family placed on the thrones of Europe, and also witnessed their downfall. She was born at Ajaccio in 1750. After the death of her husband she lived for some time in Corsica, and in 1793, when the island came under British rule, removed with her family to Marseilles, where she lived in poverty, mainly supported by the pension given to Corsican refugees. After her son became First Consul she removed to Paris, and when her son was crowned in 1804 received the title Madame Mere, and was made patroness of all the benevolent institutions of the empire. A brilliant court household was given to her, which, however, was never pleasing to her modest tastes. Remembering former adversities, and foreboding reverses of the splendid success of her sons, she was prepared for all that followed. After the downfall of Napoleon, Letizia lived with her stepbrother, Cardinal Fesch, in winter at Rome, and in summer at Albano, and submitted to her change of fortune with remarkable dignity. She died in 1836, leaving a considerable property, the result of saving habits during her prosperity.

Joseph Bonaparte, eldest brother of Napoleon, was born at Corte, in Corsica, in 1768. After the coronation of Napoleon Joseph Bonaparte was made commander-in-chief of the army of Naples; in 1805, ruler of the Two Sicilies; and in 1806, King of Naples. In 1808 Joseph Bonaparte was summarily transferred by his brother to the throne of Spain, and Murat took his place as King of Naples. For Joseph, this was no favorable change; he found himself unprepared to cope with the Spanish insurgents, and after the defeat of the French at Vittoria in 1813, he returned to his estate at Morfontaine, in France. After Waterloo Joseph sailed to the United States, became an American citizen, and lived for some years at Bordentown, N. J., where he employed himself in agriculture, and was highly esteemed by his neighbors. In 1832 he returned to Europe, and he died at Florence in 1844.

Lucien Bonaparte, Prince of Canino, and brother of Napoleon, was born at Ajaccio in 1775, and received his education in the college of Autun, the military school at Brienne, and the seminary at Aix. Lucien was a Republican in opinion, and, therefore, opposed to the absolute rule of his brother; and his second marriage to the widow of a stockbroker did not improve their relations. On condition that he would divorce his wife, the crowns of Italy and Spain were offered him; but he refused them, and preferred living in retirement at his estate of Canino, in the Province of Viterbo, near the frontiers of Tuscany, where he devoted his time to art and science. Here he enjoyed the friendship of the Pope, who created him Prince of Canino and Musignano; but, having denounced in his private capacity the arrogant and cruel policy of his brother toward the Court of Rome, he was advised to leave the city in which he was at that period residing. In 1810 he took ship for America, but fell into the hands of the English. After the defeat at Waterloo, Lucien Bonaparte alone seems to have preserved his presence of mind. He immediately advised his brother to dissolve the Chambers, and assume the place of absolute dictator. After the second ascent of the throne by Louis XVIII., Lucien lived in and near Rome, and died at Viterbo in 1840.

Louis Bonaparte, third brother of Napoleon, born in 1778, was educated in the artillery school at Chalons, where he imbibed anti-Republican principles. After rising from one honor to another he was made King of Holland in 1806; but, in fact, was never more than a French Governor of Holland, subordinate to the will of his brother. Yet he seems to have done his best to govern in the interests of his Dutch subjects, and when he found his efforts useless, he resigned in favor of his son in 1810. He returned to Paris in 1814, where he was coldly received by the Emperor. After living for some years in Rome — where he separated from his wife —

he removed in 1826 to Florence, where he lived in retirement. He died at Leghorn in 1846.

The amiable and accomplished HORTENSE EUGENIE BEAUHARNAIS, the adopted daughter of Napoleon, Queen of Holland and Countess St. Leu, was born at Paris in 1783. She became the wife of Louis Bonaparte, Napoleon's third brother, and their son, Charles Louis Napoleon, became Emperor of the French as Napoleon the Third. She died at Arenenberg in 1837, and was buried near the remains of her mother, Josephine, at Ruel, near Paris.

JEROME BONAPARTE, youngest brother of Napoleon, was born at Ajaccio in 1784. After receiving his education in the college at Juilly, he served as naval lieutenant in the expedition to Haiti. When war broke out between France and England in 1803, Jerome was cruising off the West Indies, and was compelled to take refuge in the port of New York. While in the United States he married Elizabeth Patterson (1785–1879), daughter of a merchant in Baltimore. He fought in the war against Prussia, and in 1807 was made King of Westphalia. His administration of his kingdom was careless, extravagant, and burdensome to his subjects. The battle of Leipsic brought the reign of Jerome to a close. He fought by the side of the Emperor at Waterloo. After his brother's abdication he left Paris and visited Switzerland and Austria, but ultimately settled in Florence. At the outbreak of the February Revolution (1848), Jerome Bonaparte was in Paris, where he was appointed Governor of the Invalides, and in 1850 was made a French marshal. He died in 1860.

His marriage with Elizabeth Patterson having been declared null by Napoleon, Jerome was forced, after he had gained the Westphalian crown, to marry Catharine, daughter of King Frederick I. of Wurtemberg. After the battle of Waterloo, her father wished to annul the marriage; but she declared her resolution to share through life the fortunes of her husband. Jerome Bonaparte left in the United States one son, Jerome Napoleon (1805–1870), by his first marriage, who was a wealthy resident, though he never became a naturalized citizen. He left two sons, (1) JEROME NAPOLEON BONAPARTE, born in Baltimore, in 1832. He served with credit in the United States and French armies. (2) CHARLES JOSEPH BONAPARTE, b. Baltimore, 1851; graduated in law at Harvard; became a prominent public man; U. S. Sec. of Navy 1905; and in 1906 U. S. Atty. Gen. By his second wife, Jerome Bonaparte had three children. Of the Emperor Napoleon I. and his brothers, Joseph and Louis, male issue is now extinct. The Emperor's brothers, Lucien and Jérome, are represented by living descendants. (See NAPOLEON).

Bonar, Horatius, a celebrated Scotch hymnist, born in Edinburgh, Dec. 19, 1808; wrote "Hymns of Faith and Hope," many of which have been taken into the hymnals of most of the Protestant Churches. He also wrote more than 20 volumes on theological and religious subjects. He died July 31, 1889.

Bonaventura, St., an Italian friar of the Order of St. Francis, born in Tuscany in 1221. He died July 15, 1274, from sheer ascetic exhaustion.

Bona Vista, a bay, cape, and town on the E. coast of Newfoundland. The town is a port of entry, and one of the oldest settlements in the island.

Bonchamp, Charles, Marquis de, a Vendean leader, was born in Anjou, May 10, 1760. He served as a volunteer in the American Revolutionary War, and was a captain in the French army at the outbreak of the French Revolution. A strong Royalist, he naturally disliked the Revolution, and consequently lived in retirement until chosen leader of the Anjou insurgents. In the encounter at Cholet, Oct. 17, 1793, Bonchamp received a fatal shot in the breast, and when his followers vowed to revenge his death on 5,000 Republican prisoners, the dying hero exclaimed: "Spare your prisoners. I command it!" This, his last command, was obeyed.

Bond, a written acknowledgment or binding of a debt under seal. The person who gives the bond is called the obligor, and he to whom it is given the obligee.

Bond, in masonry, a stone or brick which is laid with its length across a wall, or extends through the facing course into that behind, so as to bind the facing to the backing.

Bond, George Phillips, an American astronomer, born in Dorchester, Mass., May 20, 1825; a son of William Cranch Bond; assisted his father in the Harvard College Observatory, and at the time of the latter's death was appointed director. He discovered independently 11 new comets, and was the author of an elaborate memoir on the appearance of Donati's comet in 1858. Died Feb. 17, 1865.

Bond, Sir Robert, an English colonial statesman; born in Torquay, England, Feb. 25, 1857; was educated for the bar, but early entered political life; became premier and colonial secretary of Newfoundland in 1900; was long conspicuous in international negotiations concerning the Newfoundland fisheries; and concluded the Bond-Blaine convention in 1890 and the Hay-Bond treaty, which the United States Senate rejected, in 1902.

Bond, William Cranch, an American astronomer, born in Portland, Me., Sept. 9, 1789; began life as a watch maker, and constructed the first ship's chronometer made in the United States. He established a private observatory at Dorchester, Mass., which was at the time the finest in the country. Invited to move his observatory to Cambridge, he accepted the invitation of the Harvard College authorities, and in 1840 was appointed Astronomical Observer to the university, and later to the directorship of the observatory erected there in 1843–1844. He was the inventor of the method of registering the beats of a clock by galvanic circuit, together with the observed transits of stars over the wires of a transit instrument, upon a chronograph, and he invented the spring governor, which bears his name, for controlling the motion of the chronograph barrel. His most important work was in connection with the determination of longitudes, both of points in the United States from the Harvard College Observatory, and that of the observatory itself from Greenwich by the observation of a vast number of ocultations of stars by the moon, both at Dorchester and Cambridge. He died Jan. 29, 1859.

Bonded Warehouses, places where taxable imports or manufactures may be left in government custody, under bond for payment of the duty, till the importer or manufacturer is prepared to make full payment of duty.

Bondi, Clemente, one of the most popular poets of modern Italy; born in Mizzano, in the duchy of Parma, June 27, 1742; died in Vienna, June 20, 1821.

Bone. The bones are the hardest and most solid parts of animals; they constitute the frame, serve as points of attachment to the muscles, and afford support to the softer solids. They are the instruments, as muscles are the organs, of motion. In the mammalia, birds, fish, and reptiles, the whole system of bones united by the vertebral column is called the skeleton.

Bone, or **Bona,** a town and seaport of Algiers, 85 miles N. E. of Constantine, at the mouth of the Seybouse river. It is built on the site of Aphrodisium, the port of ancient Hippo. The Vandals having destroyed Aphrodisium, an Arab town arose on its ruins. The city having outgrown its former limits, the present ramparts are beyond the old walls. Bone has been modernized to some extent, many old buildings being removed to make room for new ones. The surface is irregular and some of the streets steep. There are mosques, a cathedral and other churches and a synagogue.

Bone Ash, ash made of calcined bones.

Bone Bed, in geology, a bed containing numerous fragments of fossil bones, teeth, etc.

Bone Black, animal charcoal. It is obtained by charring bones. It has the power of absorbing gases, removing the coloring matter and alkaloids, etc., from their solutions. It is used to disinfect ulcers, etc., also to decolorize sugar and other organic substances; its properties can be restored by heating it to redness in closed vessels.

Bone Manure, one of the most important fertilizers in agriculture. The value of bones as manure arises chief-

ly from the phosphates and nitrogenous organic matters they contain. It is of most service, therefore, where the soil is deficient in this respect, or in the case of crops whose rapid growth or small roots do not enable them to extract a sufficient supply of phosphate from the earth, turnips, for instance, or late sown oats and barley.

Boner, John Henry, an American poet and literary worker, born at Salem, N. C., Jan. 31, 1845.

Boneset, or **Thoroughwort,** a useful annual plant, indigenous to the United States, and easily recognized by its tall stem, 4 or 5 feet in height, passing through the middle of a large, double, hairy, leaf, and surmounted by a broad, flat head of light purple flowers. It is much used as a domestic medicine.

Bongabong, a town in the S. E. part of Luzon, Philippine Islands, with an estimated popplation of 20,000. It lies in a mountainous district, and attained military importance as the headquarters of a regiment of United States troops. The town has a municipal government based upon popular election.

Bonheur, Rosa, (properly Marie Rosa), celebrated French artist and painter of animals was born at Bordeaux, March 22, 1822. She received early tuition from her father, a drawing teacher, and when only 18 years of age, exhibited at the Salon, two pictures, "Goats and Sheep," and "Two Rabbits eating Carrots." Among her famous pictures are, "Ploughing in the Nivernais," "Haymaking in Auvergne," "The Normandy Horse Fair," and "Deer in the Forest" (the last two in the Metropolitan Museum of Art, New York city). She died at By, May 25, 1899.

Boniface, St., a saint of the Roman calendar, and a native of England, who was sent by Gregory II. to convert the Germans. Gregory III. made him an archbishop. Born in Devonshire in 680, slain by some peasants in Friesland, in 755. His letters were printed in 1616.

Bonington, Richard Parkes, an English painter in oil and water colors, born near Nottingham, Oct. 25, 1801. He died Sept. 23, 1828.

Bonivard, or **Bonnivard, Francois de,** cadet of a family holding large possessions under the House of Savoy, was born about 1496 at Seyssel, on the Rhone, and in 1513 became prior of St. Victor at Geneva. Falling under the suspicion of the Duke of Savoy, he was taken prisoner by him in 1519. After 20 months' imprisonment he was set free, but in 1530 he was again seized, and taken to the castle of Chillon at the E. end of the Lake of Geneva, where he was imprisoned for six years, the last four in that subterranean vault which the genius of Byron has made famous by his poem on the sufferings of "The Prisoner of Chillon." He died in 1570, leaving the town his books, which were the nucleus of the Geneva library.

Bonn, a German town in the Rhenish Province of Prussia, beautifully situated on the left bank of the Rhine, with magnificent promenades and prospects in the environs. It has some trade and manufactures, but is chiefly important for its famous university, founded in 1777 by Elector Maximilian Frederick of Cologne, and for its cathedral, which has a crypt of the 11th century and mediæval wall paintings. Enlarged and amply endowed by the King of Prussia, in 1818, the university is now one of the chief seats of learning in Europe, with a library of more than 200,000 volumes, an anatomical hall, mineralogical and zoological collections, museum of antiquities, a botanical garden, etc. The teachers in the five faculties number about 150, and the students nearly 2,000. Lange, Niebuhr, Ritschl, Brandis, and other names famous in science or literature are connected with Bonn, and Beethoven was born here. Bonn was long the residence of the Electors of Cologne, and finally passed into the hands of Prussia by the arrangements of the Congress of Vienna, in 1815. Pop. (1890) 39,805, (1900) 50,737

Bonner, Edmund, an English prelate of infamous notoriety, was born about 1495, of obscure parentage. He took a doctor's degree at Oxford, in 1525, and, attracting the notice of Cardinal Wolsey, received from him several offices in the church. On the dealth of Wolsey he acquired the favor

of Henry VIII., who made him one of his chaplains, and sent him to Rome to advocate his divorce from Queen Catharine. In 1540 he was consecrated Bishop of London, but on the death of Henry (1547), having refused to take the oath of supremacy, he was deprived of his see and thrown into prison. On the accession of Mary he was restored to his bishopric, and he distinguished himself during this reign by a persecution of the Protestants, 200 of whom he was instrumental in bringing to the stake. After Elizabeth succeeded he remained unmolested until his refusal to take the oath of supremacy, on which he was committed to the Marshalsea (1560), where he remained a prisoner until his death in 1569.

Bonner, Robert, an American publisher, born near Londonderry, Ireland, April 28, 1824. He came to the United States in early youth, and learned the trade of a printer. In 1844 he removed to New York, and, in 1851, purchased the "Ledger," then an insignificant paper. He made it remarkably successful. As a result he became very rich, and gratified his taste for fast horses by purchasing the most celebrated trotters in the world, though withdrawing them from the race course. Among these are "Peerless," "Dexter," "Maud S.," which he bought from William H. Vanderbilt for $40,000, her record of speed being 2.09¾, which he afterward reduced to 2.08¾, and "Sunol." He made large gifts of money to Princeton University and was widely known for his many benefactions. He retired from active control of the "Ledger" in 1887, giving it into the hands of his sons. He died in New York city, July 6, 1899. He prided himself on the facts that he had never raced a horse for money, never made a bet, never borrowed a dollar, and never gave a note in his life.

Bonnet, a head dress; a dress or covering for the head worn by women; a cap or head covering, much used before the introduction of hats, and still worn by the Scotch Highlanders.

Bonneville, Benjamin L. E., an American soldier and explorer, born in France, in 1793; explored in the Rocky Mountains and California; fought in the Mexican War; was wounded at Churubusco; served as superintendent of barracks and recruiting officer in Missouri during the Civil War of 1861–1865. He died in Fort Smith, Ark., June 12, 1878.

Bonney, Charles Carroll, American lawyer, born at Hamilton, N. Y., Sept. 4, 1831; finished his studies at Colgate University, which gave him the degree LL.D. After a teaching and lecturing career in Illinois, aiding in the establishment of the State's educational system, he joined the Illinois bar in 1852. He was president of the International Law and Order League (1885-93); president of the World's Congress Auxiliary of the Chicago Columbus Exposition (1893); and president of the World's Religious Parliament Extension. He wrote valuable legal text-books. D. 1903.

Bonnivard. See BONIVARD.

Bonnycastle, Charles, an Anglo-American mathematician, born in Woolwich, in 1792. He was Professor of Mathematics at Woolwich Military Academy, Professor of Natural Philosophy in the University of Virginia (1825–1827) and of Mathematics there from 1827. He died in Charlottesville, Va., October, 1840.

Bonnycastle, Sir Richard Henry, an English military engineer, born in 1791; spent the greater part of his life in British North America; died in 1848.

Bonpland, Aime, a French botanist, born in Rochelle, Aug. 22, 1773. While pursuing his studies at Paris he made the acquaintance of Alexander von Humboldt, and agreed to accompany him in his celebrated expedition to the New World. During this expedition he collected upward of 6,000 plants, previously unknown, and on his return to France, in 1804, was made Director of the Gardens at Navarre and Malmaison. On the Restoration he proceeded to South America, and became Professor of Natural History at Buenos Ayres. Subsequently, while on a scientific expedition up the river Parana, he was arrested by Dr. Francia, the Dictator of Paraguay, as a spy and detained for eight years. He afterward settled in Brazil, where he died in 1858.

Bonsal, Stephen, an American journalist, born in Virginia in 1865.

He was educated at Concord and Heidelberg. In the Bulgarian-Servian War he was special correspondent of the New York "Herald," serving in the same capacity in Macedonia and Cuba. He has been Secretary of Legation of the United States in Pekin, Madrid, Tokio, and Korea.

Bontebok, the pied antelope, an antelope of South Africa, with white markings on the face, allied to the blesbok.

Bonze, the name given by the Portuguese to any member of the Buddhist priesthood in Japan. Thence the name spread to the priests of the same faith in China and the adjacent regions.

Booby, (Sula fusca), a swimming bird allied to the gannet, and so named by early mariners, owing to the stupidity with which it allowed itself to be killed without attempting to escape. They live on fish. There are several species found throughout the world, in America, notably along the shores of Georgia, Lower California, and Peru.

Book Binding, the art of stitching or otherwise fastening together and covering the sheets of paper or similar material composing a book.

Bookkeeping, the art of keeping books in which pecuniary transactions are so unremittingly and so accurately entered that one is able at any time to ascertain the exact state of his financial affairs, or of any portion of them, with clearness and expedition. It is generally divided into bookkeeping by single and bookkeeping by double entry. In the former every entry is single, i. e., is placed to the debit or credit of a single account, while in the latter it is double, that is, it has both a debtor and creditor account. In other words, by single entry each transaction is entered only once in the ledger, and by double entry twice.

Book of Common Prayer, the book that forms the liturgy of the Church of England. It is a development from the "Breviary Missal" and "Manual" compiled in the 11th century by Osmund, Bishop of Salisbury. A revision of the "Breviary" was made in 1516, by order of Cardinal Wolsey, and it was again revised in 1531, and the "Missal" in 1533. In 1542 a Committee of Convocation was appointed whose work, a litany, in English, was issued in 1544. In 1547 Cranmer's rendering of the "Missal" into English appeared as the "Order of Communion." In 1548 the first version of the present "Book of Common Prayer" was reported to the convocation and adopted by Parliament, as a part of the Act of Uniformity of 1548–1549. A second revision was sanctioned by Parliament in 1552. This was repealed by Queen Mary, and restored by Elizabeth, with changes in 1559. The Puritans suppressed the book, but it was restored at the Restoration. The Savoy Conference of 1661 modified it by concession to the Puritans. It was adopted in Ireland in 1662 and has since been used by the Anglican Church, in its various branches. It consists of various tables, Morning and Evening Prayers, the Litany, Prayers and Thanksgivings, Collects, Epistles and Gospels chosen in accordance with the Church calendar, Order of Communion and other special services, as Matrimony, and Burial of the Dead, the Catechism, the Psalter services connected with the imposition of the clerical and lay offices, and Articles of Religion. The "Prayer Book" of the Protestant Episcopal Church of the United States is a revision of the Anglican book, authorized in 1789, and revised again, 1886–1893.

Book of Martyrs, a history of the persecution of Reformers in England, by John Fox.

Book of Mormon, a book forming the authoritative scriptures of the members of the Church of Jesus Christ of Latter-Day Saints. Joseph Smith, an American, of Manchester, N. Y., professed to have heard in 1823 the Angel Moroni reveal to him in visions that the Bible of the Western Continent was buried in a box near his residence. This, according to his own account, he at length found — a volume six inches thick, with leaves of thin gold plate, eight inches long by seven broad, bound together with three gold rings; on which leaves was a mystic writing that he characterized as reformed Egyptian. With the book he professed to have found a pair of magic spectacles, by means of which he was able to read the contents,

which he dictated to an amanuensis. This book consists of an alleged history of America from 600 B. C., when Lehi and his family (descended from the dispersion after the building of the Babel tower) landed in Chile. Between the descendants of Nephi, Lehi's youngest son, and the offspring of his older brothers, who are the North American Indians, long conflicts were waged; the Nephites finally being almost annihilated. There remained a fragment, among whom were Mormon and his son, Moroni. They collected the records of their people, and buried them in the hill of Cumorah, on the Divine assurance that they would be found by the Lord's prophet. Besides this history, the book, as it finally was received, has various moral and religious teachings.

Bookplate, an English name for labels of ownership frequently placed on the inside covers of books.

Bookworm, any grub which feeds on the paper of books. Most people are familiar with the effects of the bookworm's ravages; but the creatures are extremely rare in the United States, especially since so many chemical substances have been introduced into the manufacture of paper. In the United States books in libraries, though usually free from the ravages of the bookworm, are infested and damaged by a small cockroach.

Boom, a beam, tree, or pole. In navigation, a long pole run out from any part of a ship to stretch the foot of any particular sail; whence, jib boom, main boom, studdingsail boom, etc. In fortification, in marine defenses, a strong chain or cable stretched across the mouth of a river or harbor, to prevent the enemy's ships from entering, and having a number of poles, bars, etc., fastened to it; whence the name; as, to cut or burst the boom. In navigation, a pole set up as a sea mark to point out the channel to seamen, when navigating in shallows. The word is also applied to a hollow, roaring sound; as the boom of a cannon; the reverberating cry of the bittern; and likewise to a sudden rise in the market value of real estate, stocks or commodities; an enthusiastic popular movement in favor of any person, cause or thing; as, a real estate boom, a political boom; a boom in sugar.

Boomerang, a missle weapon invented and used by the native Australians, who are generally deemed the lowest in intelligence of any tribe or race of mankind. It is a curved stick, round on one side and flat on the other, about three feet long, two inches wide, and three-quarters of an inch thick. It is grasped at one end and thrown sickle-wise, either upward into the air, or downward so as to strike the ground at some distance from the thrower. On throwing it downward to the ground, it rebounds in a straight line, pursuing a ricochet motion until it strikes the object at which it is thrown. The most singular curve described by it is when it is thrown at an angle of about 45°.

Boone, city and capital of Boone county, Ia.; on the Chicago & Northwestern and other railroads; 37 miles N. W. of Des Moines; is in a fire and pottery clay section; has large milling, manufacturing, and coal mining interests; and contains extensive railroad and machine shops. Pop. (1910) 10,347.

Boone, Daniel, the pioneer of Kentucky, born in Bucks county, Pa., Feb. 11, 1735. He was a Colonel in the United States service, and signalized himself by his many daring exploits against the Indians, and also by his extensive surveys and explorations of the State of Kentucky. In 1793 he removed to Upper Louisiana, then belonging to the Spaniards, and was appointed by them commandant of a district there. He was one of the most successful of the enterprising American pioneers of the 18th century, and may be said to have explored and aided in the settlement of the country from the Alleghany Mountains to the frontier of Missouri. Many places have been named in his honor. Died in Missouri, Sept. 26, 1820.

Boot, an article of dress, generally of leather, covering the foot and extending to a greater or less distance up the leg. Hence the name was given to an instrument of torture made of iron, or a combination of iron and wood, fastened on to the leg, between which and the boot wedges were introduced and driven in by repeated blows of a mallet, with such violence

as to crush both muscles and bones. The special object of this form of torture was to extort a confession of guilt from an accused person.

Bootes. In astronomy, a constellation called also Arctophylax, or the Bear river. It contains 54 stars, including 1 of the first magnitude, Arcturus, 7 of the third, and 10 of the fourth.

Booth, Ballington, General of the Volunteers of America, born in Brighouse, England, July 28, 1859. He is a son of Gen. William Booth, founder of the Salvation Army, with which body he was officially connected until 1896, when he seceded and founded the Volunteers, a religious military body organized in the interest of the unchurched masses. His wife, MAUDE, has ably seconded her husband's efforts, and is very popular on the lecture platform.

Booth, Barton, an eminent English actor, born in 1681; died in 1733.

Booth, Edwin Thomas, an American actor, born near Belair, Md., Nov. 13, 1833; the fourth son of Junius Brutus Booth. When 16 years of age, he made his first appearance on the stage, in the part of Tressel, his father acting as Richard III. Two years later he himself successfully assumed the part of Richard in place of his father, who unexpectedly refused to fulfill an evening's engagement. The following year the two went to California, where the son remained for several years, visiting Australia meanwhile. Meeting with little pecuniary success, in 1856, he returned to the Atlantic States, and from that time forward was recognized as a leading member of his profession. He visited England (1861–1862), and in 1864 produced "Hamlet" at New York for 100 nights consecutively. In 1869 he opened a splendid theater in New York, whose building cost over $1,000,000, but which involved him in pecuniary ruin. He revisited California in 1876, and in the spring of 1877 was able to settle with his creditors, having earned during the season over $600,000. Booth visited Great Britain and Germany in 1880–1882, and was everywhere received with enthusiasm. He died in New York, June 7, 1893.

Booth, John Wilkes, an American actor, born in Hartford county, Md., in 1838; another son of JUNIUS BRUTUS BOOTH. He sided with the Confederates in the Civil War, and to avenge the defeat of their cause he formed a conspiracy against the life of President Lincoln. He mortally wounded the President, while the latter was attending a performance in Ford's Theater, in Washington, on April 14, 1865; broke his own leg in escaping from the building; and concealed himself in Virginia till the 26th, when, on being discovered, and refusing to surrender, he was shot.

Booth, Junius Brutus, an Anglo-American tragedian, born in the parish of St. Pancras, London, May 1, 1796. He received a classical education, but early manifested a predilection for the stage, and when 17 years of age appeared in some unimportant parts. Subsequently he played Richard III., at Covent Garden, a part in which he suddenly became famous. In 1821 he went to the United States, where for the ensuing 30 years he followed his profession with much success. He died suddenly on board a Mississippi river steamer, Nov. 12, 1852.

Booth, Mary Louise, an American journalist and author, born in Yaphank, Long Island, N. Y., April 19, 1831; was widely known as the editor of "Harper's Bazar," which place she held from 1867 till her death in New York city, March 5, 1889.

Booth, William, founder and General of the Salvation Army, was born at Nottingham, England, April 10, 1829, was educated there, and from 1850 to 1861, acted as minister of the Methodist New Connection. From the first he was zealous in holding evangelistic services, but the new departure which led to the creation of the Salvation Army on military lines began in 1865 with mission work among the lower classes in the East End of London. Since 1878 Booth's movement has been known as the Salvation Army, of which he had continued to be the mainspring and controlling power, directing its movements at home and abroad from his headquarters in London. His enthusi-

asm and wonderful organizing power gave much life to the religious military system, of which he was really "general." The property of the Salvation Army is held for its exclusive use by Booth. His wife was associated with him in the publication of several hymns and religious works dealing with the movement, till her death in 1890. He died Aug. 21, 1912.

Booth-Tucker, Emma Moss, daughter of William Booth of the Salvation Army, and wife of F. St. George Booth-Tucker, was born in 1860, and died in Oct. 1903, the victim of a railway accident. She held the rank of Consul, and with her husband, directed the army in the United States. She possessed remarkable executive ability, and was loved by all with whom she came in contact.

Booth-Tucker, Frederick St. George de Lautour, commander of the Salvation Army in the United States, was born in India, in 1853. He held important official posts in India, but resigned them in 1881 to join the Salvation Army. Upon his marriage with Emma Moss Booth, daughter of Gen. William Booth of the Salvation Army, he prefixed Booth to his own name of Tucker. In 1896 he became commander of the United States branch of the Salvation Army.

Bora, Katharina von, wife of Luther, was born in 1499. She took the veil early; but feeling unhappy in her situation, applied, with eight other nuns, to Luther. The nuns were released from their convent, and, in 1525, Luther married her, having himself by this time laid aside the cowl. After Luther's death she kept boarders for her support. She died at Torgau, in 1552.

Borax, the anhydroborate of sodium, forms large transparent six-sided prisms, which dissolve readily in water, effloresce in dry air, and when heated melt in their water of crystallization, swell up, and finally fuse to a transparent glass. In this state borax dissolves metallic oxides which frequently impart to it characteristic colors. From this property borax is employed in soldering metals, as it removes films of oxide, and leaves the metals in metallic contact with each other and with the solder. It is also employed in making fine glaze for porcelain, as it renders the materials more fusible. In medicine it is employed in ulcerations and in skin diseases.

Borchgrevink, Carsten Egebert, a Norwegian explorer and lecturer, born in Christiania, in 1864, his mother being English and his father a Scandinavian. He went to sea at an early age, but returned to go to college. In 1898 he went to Australia, joined the Survey Department, and scaled Mount Lindsay. In 1894–1895 he was in Antarctic waters, a region fully explored by him in 1897, when he attempted to reach the South Pole without success. In 1899 (Feb. 17) he had, however, reached Robertston Bay. Returning to London in 1900 he reported having reached lat. 78.50 S., long. 195.50 E., the furthest point S. ever reached by man.

Bordeaux, a city and port of France, capital of the Department of Gironde, on the Garonne river, about 70 miles from the sea. It is built in a crescent form round a bend of the river, which is here lined with fine quays and crossed by a magnificent stone bridge, and consists of an old and a new town. The former is mostly composed of irregular squares and narrow, crooked streets; while the latter is laid out with great regularity, and on a scale of magnificence hardly surpassed by any provincial town in Europe. The chief exports are wine and brandy; sugar and other colonial produce and wood are the chief imports. Shipbuilding is the chief industry, and there are sugar refineries, woolen and cotton mills, potteries, soap works, distilleries, etc. Bordeaux is the Burdigala of the Romans. Under Henry II. it went to England; under Charles VII., it was restored to France. Pop. 256,906.

Borden, Robert Laird, a Canadian statesman; born in Halifax, N. S., in 1854; engaged in law practice; elected to the Dominion Parliament, 1896; became Conservative leader, 1901; succeeded Sir Wilfred Laurier as Premier, 1911.

Borden, Simeon, an American inventor and surveyor, born in the present Fall River, Mass., Jan. 29,

1798. He instructed himself in mathematics and devised successful surveying instruments. The first American geodetic survey was his work. In 1846 he began the construction of railroads. He died in Fall River, Oct. 28, 1856.

Bordentown, a city in Burlington co., N. J., on the Delaware river, the Delaware and Raritan canal, and the Pennsylvania railroad; 57 miles S. W. of New York city. It is noted as being a former residence of Joseph Bonaparte, brother of Napoleon I. and for many years the house and grounds belonging to the estate possessed much interest for the tourist.

Bore, or **Eagre,** a sudden influx of the tide into the estuary of a river from the sea, the inflowing water rising to a considerable height and advancing like a wall against the current. Chief among American bores are those of the rivers emptying into the Bay of Fundy; in Europe the eagres of the Severn and Trent, England; and the mascaret of the Seine, France. See also EAGRE.

Bore, in metallurgy, a tool bored to fit the shank of a forged nail, and adapted to hold it while the head is brought to shape by the hammer. The depression in the face of the bore is adapted to the shape required of the chamfered under part of the head. The word is also applied to the cavity of a steam engine cylinder, pump barrel, pipe, cannon, barrel of a firearm, etc.

Boreas, a bellowing wind; the Northern wind; a cold, Northerly wind. In mythology, the son of Astræus and Eos, usually worshipped as the god of the North Wind. The assiduity with which the worship of Boreas was cultivated at Athens proceeded from gratitude, the North Wind having on one occasion destroyed the fleet of the Persians when meditating the invasion of Attica. A similar cause induced the inhabitants of Megalopolis to consider Boreas as their peculiar divinity, in whose honor they instituted an annual festival. Boreas was usually represented with wings dripping with golden dewdrops, and the train of his garment sweeping along the ground.

Borghese, a Roman family, which derives its origin from Sienna, and which held the highest offices in this republic from the middle of the 15th century. Pope Paul V., who belonged to this family, and ascended the papal chair in 1605, loaded his relations with honors and riches.

Borghese, Princess Marie Pauline, the beautiful sister of Napoleon; born in Ajaccio, Oct. 20, 1780. She died in Florence, June 9, 1825. She left many legacies, and a donation, the interest of which was to enable two young men of Ajaccio to study medicine and surgery. The rest of her property she left to her brothers, the Count of St. Leu and the Prince of Montfort. The whole property amounted to 2,000,000 francs.

Borgia Cesare, the natural son of Pope Alexander VI., and of a Roman lady named Vanozza, born in 1478. He was raised to the rank of Cardinal in 1492, but afterward divested himself of the office, and was made Duc de Valentinois by Louis XII. In 1499 he married a daughter of King John of Navarre, and accompanied Louis XII. to Italy. He then, at the head of a body of mercenaries, carried on a series of petty wars, made himself master of the Romagna, attempted Bologna and Florence, and had seized Urbino when Alexander VI. died, 1503. He was now attacked by a severe disease, at a moment when his whole activity and presence of mind were needed. He found means, indeed, to get the treasures of his father into his possession, and assembled his troops in Rome; but enemies rose against him on all sides, one of the most bitter of whom was the new Pope, Julius II. Borgia was arrested and carried to Spain. He at length made his escape to his brother-in-law, the King of Navarre, and was killed before the castle of Viana, March 12, 1507. He was charged with the murder of his elder brother, of the husband of his sister Lucretia, and the stiletto or secret poisoning was freely used against those who stood in his way. With all his crimes he was a patron of art and literature.

Borgia, Lucretia, daughter of Pope Alexander VI., and sister of Cesare Borgia, was born in 1480. She was accused of almost every species of crime; but several modern writers maintain that the charges against her

are false or much exaggerated. She patronized art and literature. She died in 1523.

Boring, a process in mechanical and engineering operations, variously performed according to the medium dealt with.

Bornemann, Wilhelm, a Low German dialect poet, born in Gardelegen in 1766. He is one of the foremost representatives of modern Low German poetry. He died in 1851.

Borneo, an island, next to Australia and Papua, the largest in the world, is situated in the Indian Archipelago. It is bounded on the E. by the Sea of Celebes and the Macassar Strait, S. by the Sea of Java, W. and N. by the Gulf of Siam and the China Sea. Its length is about 850 miles, with a breadth of 600, and an area of about 290,000 square miles. The population is roughly estimated at more than 2,000,000.

British Borneo is north of the Madei Mountains; Dutch Borneo to the south. The lowlands are malarious and unhealthful; the north highlands temperate, the thermometer at noon varying from 81° to 91° F. Nutmegs, cloves, cinnamon, pepper, betel, ginger, rice, millet, sweet potatoes, yams, cotton in Amuntai, sugar cane in Sambas and Montrado, indigo, tobacco, coffee in Sambas, pineapples, cocoanuts, etc., are cultivated. The mountains and forests contain many monkeys, among which is the orang outang. Tapirs, a small kind of tiger, small Malay bears, swine, wild oxen or banteng, and various kinds of deer abound. The elephant is only found in the N., and the rchinoceros in the N. W. The few domesticated animals are buffaloes, sheep, goats, dogs, and cats. A few horses are seen in Banjermassin. Among the birds are eagles, vultures, argus pheasants, peacocks, flamingoes, pigeons, parrots, and also the swifts, which construct the edible nests prized by the Chinese for making soup. The rivers, lakes, and lagoons swarm with crocodiles, and many kinds of snakes, frogs, lizards, and leeches. Fish is plentiful, and the coasts are rich in tortoises, pearl mussels, oysters, and trepang. Brilliant butterflies and moths are in great variety. Among the mineral products are coal, gold, and copper, especially in Montrado; antimony, iron, tin, platina, nickel, diamonds and other precious stones, rock crystals, porcelain clay, petroleum, and sulphur. The diamond mines are chiefly in Landak and Pontianak; Sambas produces the greatest quantity of gold; the kingdom of Brunei, Kutei, and Banjermassin, the largest amount of coal. The Pengaron coal field, worked by the Dutch Government, is one of the most important.

The population consists of three classes, the Dyaks or Dayaks, who are the aboriginal heathen inhabitants, and constitute the great bulk of the population; the Mohammedans or Malays — for this name is extended so as to include all professors of Islam, whether true Malays, Buginese, Javanese, Dyaks, or Arabs; and the Chinese. The Dyaks live chiefly in the interior, and employ themselves with tillage and the collecting of gutta percha, resin, gums, rattans, gold dust, and wax. They are divided into numerous tribes. The Malays (taking the name ethnographically) dwell on the coasts, are traders and bold sailors. They are more civilized than the Dyaks, cultivate the grounds around their houses, lay out gardens, keep cattle, and live partly by fishing. The Chinese, chiefly from Canton, have penetrated far into the interior. The principal exports are gold, gold dust, diamonds, coal, rattans, gutta percha, edible nests, cotton, wax, timber, dye woods, mats, resins, sandalwood, camphor, etc.; the imports, earthenware, iron, steel, and copper work, piece goods, yarns, woolen and silk fabrics, medicines, provisions, wines, spirits, rice, sugar, tea, tobacco, opium, trepang, gambir, gunpowder, etc.

Bornier, Henri, Vicomte de, a French dramatist, member of the Academy, born at Lunel, Dec. 25, 1825. His plays are notable for splendor of diction. He is the author of several successful novels and romances. He died in 1868.

Bornu, formerly a negro kingdom of Central Africa; now divided between England, France and Germany; bounded on the E. by Lake Tchad, and N. by the Sahara. The soil is fertile, yields plentiful crops of tropical produce. Wild beasts are very numerous. Coats of

mail are made both for horses and their riders. The population, which is estimated at about 5,000,000, are mostly of negro race, and called Bornuese or Kanuri. The ruling race, called Shuwas, are of Arab descent and bigoted Mohammedans; but many traces of fetichism remain among the masses. Whatever they have of civilization is derived from the Arabs. The shores and islands of Lake Tchad are inhabited by negro pirates. The slave trade is eagerly prosecuted in Bornu.

Boro Budor (the "Great Buddha"), the ruin of a splendid Buddhist temple in Java, Kadu Residency, near the junction of the Ello and Progo, is the most elaborate monument of the Buddhist style of architecture anywhere existing. Buddhism was early introduced into Java, and Javanese chronicles place the building of the temple in the beginning of the 7th century; there are no inscriptions, but it was probably finished between 1400 and 1430.

Borodino, a village of Russia, 70 miles W. of Moscow; on the Kaluga, an affluent of the Moskwa. It gave name to the great battle fought between the French army under Napoleon and the Russians under Kutusoff, Sept. 7, 1812. Out of 257,000 men engaged, between 70,000 and 80,000 were killed and wounded. The Russians retreated on the following day, but in the most perfect order, and, therefore, claim this battle as a victory; but the French, who name the battle from the Moskwa, have always maintained a similar claim.

Borough, originally a fortified town. In England, a corporate town or township; a town with a properly organized municipal government. If it sends a representative or representatives to Parliament it is a Parliamentary borough, if not, it is only a municipal borough. The name is given to the five local divisions of the city of New York.

Borromean Islands, a group of four small islands on the W. side of Lago Maggiore, Northern Italy.

Borrow, George Henry, traveler, linguist, and writer on gypsy life, born in Norfolk, England, in 1803. Chief works, "The Bible in Spain," "Lavengro," "The Romany Rye." Died 1881.

Borsippa, a very ancient city of Babylonia, the site of which is marked by the ruins Birs Nimrud.

Boscawen, Edward, a British admiral, son of the first Viscount Falmouth, born in Cornwall, Aug. 19, 1711. His chief exploit was a great victory, in 1759, over the Toulon fleet, near the entrance of the Straits of Gibraltar. He died in Surrey, Jan. 10, 1761.

Bosch Bok, the bush buck, a name given to several South African species of antelope.

Bosch Vark, the bush hog or bush pig of South Africa, one of the swine family, about 5 feet long, and with very large and strong tusks. The Kaffirs esteem its flesh as a luxury, and its tusks, arranged on a piece of string and tied around the neck, are considered great ornaments.

Boscobel, a locality in Shropshire, England, remarkable historically as the hiding place of Charles II. for some days after the battle of Worcester, Sept. 3, 1651. At one time he was compelled to conceal himself among the branches of an oak in Boscobel Wood, where, it is related, that he could actually see the men who were in pursuit of him and hear their voices. The royal oak, which now stands at Boscobel, is said to have grown from an acorn of this very tree.

Bosna-Serai, or **Serajevo,** the capital of Bosnia, on the Migliazza, 570 miles W. N. W. of Constantinople. It contains a palace, built by Mohammed II., to which the city owes its name. It was formerly surrounded with walls, but its only defense now is a citadel, built on a rocky height at a short distance E. from the town. Bosna-Serai is the chief mart in the province, the center of the commercial relations between Turkey, Dalmatia, Croatia and South Germany, and has, in consequence, a considerable trade, with various manufactures. Pop. (1895) 38,083.

Bosnia, a former Turkish province in the N. W. of the Balkan Peninsula, W. of Servia; with the province of Herzegovina and the sanjak of Novi-bazar annexed to Austria-Hungary in 1908; area (including Herzegovina and Novi-bazar), 19,702 square miles (of which Bosina Proper occu-

pies 16,000), with 1,568,092 inhabitants, mostly of Slavonian origin, and mainly speaking the Servian language. The principal religions are Mohammedanism, Catholic and Greek.

Bosnia, in ancient times a part successively of Illyria, Pannonia and Dalmatia, was, during the great migrations occupied by Slavs or Slavonized Illyrians, at first dependent on Hungary; but it became a kingdom in 1376, under Tivartko, a native prince. Occupied by the Turks in 1401, it was annexed in 1463, but not recognized by Europe as a Turkish Province till 1699. Extortionate taxation caused a rebellion of the Christians, in 1849, suppressed by Omar Pasha; but a more determined rising in 1875, which the Turks failed to put down, led to the occupation of the Province by the Austro-Hungarians, which the Moslem population opposed in a fierce but unavailing struggle. The Treaty of Berlin formally intrusted the administration to Austria-Hungary, the nominal supremacy of the Sultan being recognized in 1879. Since 1880 Austrian methods of government have been gradually introduced.

Bosporus, or **Bosphorus,** the strait, 19 miles long, joining the Black Sea with the Sea of Marmora, called also the Strait of Constantinople. It is defended by a series of strong forts; and by agreement of the European powers no ship of war belonging to any nation shall pass the Bosporus without the permission of Turkey. Over this channel (about 3,000 feet wide) Darius constructed a bridge of boats on his Scythian expedition. The Cimmerian Bosporus was the name given by the ancients to the strait that leads from the Black Sea into the Sea of Azov. There was also, anciently, a kingdom of the name of Bosporus, so called from this strait, on both sides of which it was situated.

Boss, an elevated or thickened portion, usually around an aperture, or a swage or stump used in shaping sheet metal. In Gothic architecture it is the protuberance in a vaulted ceiling formed by the junction of the ends of several ribs, and serving to bind them together.

Boss, Lewis, an American astronomer, born in Providence, R. I., Oct. 26, 1846; was graduated at Dartmouth College, in 1870; astronomer of the Northern Boundary Survey for the determination of the line between the W. part of the United States and British America; and, since the completion of that work, Director of the Dudley Observatory, Albany, N. Y. He was chief of the United States party sent to Chile in 1882 to observe the transit of Venus; was elected a member of the National Academy of Science in 1889, and an honorary foreign associate of the Royal Astronomical Society, in 1890. He is best known for his work upon star declinations.

Bossuet, Jacques Bénigne, illustrious French preacher and theologian, was born in 1627, died in 1704. In 1652 he was ordained priest, and made a canon of Metz. In 1670 he was appointed preceptor to the Dauphin, and in 1681 he was raised to the see of Meaux. He drew up the famous propositions adopted by the assembly of French clergy, which secured the freedom of the Gallican Church against the aggressions of the Pope. He was unrivalled as a pulpit orator, and greatly distinguished for his strength and acumen as a controversialist. His life was largely occupied in controverting Protestantism.

Boston, a city, capital of the State of Massachusetts; the commercial metropolis of New England; and the fifth city in population in the United States according to the Federal census of 1900. It is built at the W. end of Massachusetts Bay, and comprises Boston proper, East Boston, South Boston, Roxbury, Dorchester, Charlestown, Brighton, West Roxbury, and adjoining territory, giving it, in 1900, an area of about 40 square miles. Old Boston, or Boston proper, occupied a peninsula of about 700 acres, of uneven surface, and originally containing three hills, known as Beacon, Copp, and Fort. These hills caused the early settlers to call the place Trimountain, since changed to Tremont. Boston, East Boston, Charlestown, and South Boston contain the slips of the ocean steamers. Extending about two miles along the harbor and separated from Boston proper by an arm of it, is South Boston, containing large railroad docks and warehouses. Several bridges across Charles river connect the city with Charlestown

and Cambridge. The harbor is an indentation of Massachusetts bay, embracing about 75 square miles, with numerous arms, and containing many islands presenting picturesque views. The population of the city, according to the Federal census of 1890, was 448,477; to that of 1900, 560,892; to that of 1910, 670,585.

Boston is especially noted for its magnificent park system. Among the attractions of the system are the Common, a park of 84 acres in the heart of the city; the Public Garden, separated from it by Charles street, and comprising 22 acres; the Back Bay Fens; the Jamaica Pond; Bussey Park; the Arnold Arboretum; Marine Park at City Point; and the Charles River Embankment. In the Common is a Soldiers' and Sailors' Monument, erected near the site of the famous Old Elm, which was destroyed in a gale in 1876. In the Public Garden are an equestrian statue of Washington, a bronze statue of Edward Everett, a statue of Charles Sumner, one representing "Venus Rising from the Sea," and a monument commemorating the discovery of ether as an anæsthetic.

The State House stands on Beacon Hill, and is a structure 490 feet long, and 211 feet wide, with a colonnade in front and an imposing gilded dome. Statues of Daniel Webster and Horace, Mann ornament the terrace in front of the building, and within it are statues and busts of a number of the eminent men of Boston and Massachusetts, a collection of battle flags, and a variety of interesting historical articles. The new building of the Public Library, which was occupied in 1895, is, next to the Library of Congress, the largest one in the country. The Old State-house, erected in 1748, at the head of State street, contains an historical museum in its upper floors, and business establishments in its lower. The City Hall, one of the most striking buildings of the city, on School street, is built of white Concord granite in the Italian Renaissance style, and is surmounted by a dome over 100 feet high. What is considered the most interesting building, historically, in the United States, next to Independence Hall in Philadelphia, is Faneuil Hall, known as "The Cradle of Liberty" erected in 1742, destroyed by fire in 1761, rebuilt in 1768, and remodeled to its present size in 1805. The basement of the building is now used as a market, and the second floor for large public gatherings. Occupying the site of the Old Redoubt on Breed's Hill, in the Charlestown district, is the famous Bunker Hill Monument. In the Charlestown district also is located the United States Navy Yard, which, among other objects of interest, contains the largest rope walk in the country, and an immense dry dock.

Boston is widely noted for the number and high character of its educational institutions. The institutions for higher education include Boston College (Roman Catholic), opened in 1872; Massachusetts Institute of Technology (non-sectarian), opened in 1865; Boston Normal School; Massachusetts Normal Art School; Kindergarten Training School, and Training Schools for Nurses at the Almshouse and Hospital, City Hospital, Children's Hospital, Massachusetts General Hospital, Massachusetts Homœopathic Hospital, New England Baptist Hospital, New England Deaconess' Home and Hospital, New England Hospital for Women and Children, St. Elizabeth's Hospital, Somerville Hospital, and Women's Charity Club Hospital. In the public school system, there were 12 high schools, and of various secondary schools there were 12.

Boston was settled in 1630, by a party of Puritans from Salem. It was named after a town in Lincolnshire, England, from which most of the colonists had come. In 1632 the first meeting house was erected, and in 1635 a public school was built. In the same year the first grand jury in the country met here. A memorable massacre occurred here in 1770, and in 1773 several cargoes of English tea were thrown overboard in the harbor, by citizens exasperated by the imposition of taxes. During the early part of the Revolution the British were quartered in the town. The battle of Bunker Hill was fought on Breed's Hill, within the present city limits, June 17, 1775. Washington forced the British to evacuate in 1776. The city charter was granted in 1822,

and in 1872 a great fire broke out in the business portion of the city and destroyed about 65 acres of buildings. This part of the city was soon rebuilt, and, since then, Boston has been one of the most prosperous cities in the United States.

Boston, a seaport in Lincolnshire, England, 107 miles N. E. of London. Its name is a contraction of Botolph's town, and it is commonly supposed to occupy the site of the Benedictine Abbey founded on the Witham by St. Botolph in 654, and destroyed in 870 by the Danes. Foxe, the martyrologist, and Herbert Ingram, founder of the "Illustrated London News," to whom a statue was erected in 1862, were natives of Boston. The parish church of St. Botolph's is one of the largest without transepts in England. The church was restored in 1843 at a cost of over $50,000.

Boston College, an educational institution in Boston, Mass.; founded in 1864; under the auspices of the Roman Catholic Church.

Boston Mountains, a mountain range in Western Arkansas, extending into the Indian Territory; highest summits, 3,000 feet above the sea.

Boston Tea Party, The, a famous exploit preceding the American Revolution. In order to make as emphatic a protest as possible against the British crown's policy of taxing imports, a party of Bostonians, disguised as Indians, threw into the water on the night of Dec. 16, 1773, the cargoes of three English tea ships that had just arrived in the harbor. Enraged at this act, Parliament passed (March, 1774) the Boston Port Bill, taking away from that town the privileges of a port of entry from June 1, 1774, on. This bill aroused much indignation in the colonies and was an important factor in precipitating the outbreak of hostilities.

Boston, The, a single screw, steel, protected cruiser of the United States Navy. The "Boston" was with Admiral Dewey's fleet and took a prominent part in the battle of Manila, May 1, 1898.

Boston University, a co-educational institution in Boston, Mass.; organized in 1869 under the auspices of the Methodist Episcopal Church.

Boswell, James, a Scotch biographer; the son of Lord Auchinleck; born in Edinburgh, Oct. 29, 1740. In 1791 appeared his "Life of Johnson," a work which he had been long preparing, and which at once gave readers the same delight as it has ever since inspired. A second and enlarged edition came out in 1793. By this time Boswell's health had greatly suffered from his too convivial habits, and he died in London May 19, 1795.

Bosworth, Francke Huntington, physician and author, born at Marietta, Ohio, Jan. 25, 1843, graduate of Yale, and of Bellevue Hospital Medical College, where he became throat specialist. His publications treat mainly of his specialty.

Botanic Gardens, establishments in which plants from all climates are cultivated for the purpose of illustrating the science of botany, and also for introducing and diffusing useful or beautiful plants from all parts of the world. Until modern times their sole design was the cultivation of medicinal plants. In the United States the chief are those of New York, Washington, Philadelphia, and Cambridge.

Botany, or **Phytology,** the science which treats of the vegetable kingdom. It thus forms one of the two great divisions of biology, or the science of organization and life, the other being zoology. During the 19th century, and especially in the latter half of it, enormous progress was made in the study of vegetable anatomy, histology, and physiology, and cryptogamic botany was carried to great perfection. This was mainly due to the great improvement of the microscope, but much of the work done was inspired by the wider conceptions introduced into the science by the work of Darwin, Wallace, and other scientific evolutionists.

Botany Bay, a bay of New South Wales, Australia, 5 miles S. of Sydney. It was discovered by Captain Cook, on his first voyage, in 1770, and named by him from the great number of new plants found in its vicinity. In 1787 it received England's first penal colony in the East; and, though it was supplanted the very next year by Port Jackson, yet it long continued to be the popular designation, not merely of this penal settlement, but of the

Australian convict settlements generally.

Bot Fly, a stout bodied, hairy fly, with antennæ inserted in rounded pits, and with rudimentary mouth parts, developing from thick, spiny maggots, which are parasites in cattle, horses, sheep, etc. The maggots of the horse bot fly hang by their mouth hooks to the walls of the horse's stomach, and cause great annoyance to the animal.

Botha, Louis, a Boer statesman, born in Greytown, Natal, about 1863. He began life as a farmer, and, as a young man, had a share in the establishment of the Transvaal Republic. Later he fought in the Kaffir campaign. He was elected to the Volksraad at Pretoria. Upon the outbreak of the Boer War with England in 1899, he was given a subordinate command, and, upon the death of General Joubert, in March, 1900, he became commander of the Boer forces. In 1910 he became premier of the newly-created South African Union.

Bothnia, Gulf of, the N. part of the Baltic Sea, which separates Sweden from Finland; length about 450 miles, breadth 90 to 130, depth from 20 to 50 fathoms. Its water is but slightly salt, and it freezes in the winter, so as to be crossed by sledges and carriages.

Bothwell, James Hepburn, Earl of, known in Scottish history by his marriage to Queen Mary; born about 1526. It is believed that he was deeply concerned in the murder of Darnley, Mary's husband. He made love to the widowed queen, and seizing her at Edinburgh, he carried her a prisoner to Dunbar Castle, and prevailed upon her to marry him. Mary was soon a prisoner in Edinburgh, and Bothwell was forced to flee to Denmark, where he died in 1576.

Botocudos, the most barbarous of the Indian tribes of Brazil, inhabiting the East Coast range, between the Rio Pardo and Rio Doce. They wear pieces of wood in their lower lips and ear lobes.

Bo Tree, the peepul, or sacred fig tree of India and Ceylon, venerated by the Buddhists and planted near their temples.

Botrychium, the rattlesnake fern, from its growing in such places as those venomous reptiles frequent.

Bottesini, Giovanni, an Italian violinist, born in Crema, in Lombardy, Dec. 24, 1832. A concert tour, begun in 1840, and extending to the United States, established his fame as the greatest master of the double bass fiddle. He died in Parma, in 1889.

Bottger, or **Bottiger, Johann Friedrich,** a German alchemist, the inventor of the celebrated Meissen porcelain, born in Schleiz, Feb. 4, 1682. He found refuge in Saxony, where the Elector erected a laboratory for him, and forced him to turn his attention to the manufacture of porcelain, resulting in the invention associated with his name. He died in Dresden, March 13, 1719.

Botticelli, Sandro, (for Alessandro), an Italian painter of the Florentine school, born in 1447, died 1515. Working at first in the shop of the goldsmith Botticello, from whom he takes his name, he showed such talent that he was removed to the studio of the distinguished painter Fra Lippo Lippi. From this master he took the fire and passion of his style, and added a fine fantasy and delicacy of his own. He paints flowers, especially roses, with incomparable skill. In 1481 Botticelli was in charge of the decorations in the new chapel of the Vatican, and painted a number of the portraits of the popes, and three of the large frescoes: Life of Moses, Temptation of Christ, and the Punishment of Korah, Dathan and Abiram. He also drew illustrations for Dante's Inferno. His Madonnas are the best examples of his work, for nowhere else does he show such feeling and energy. The best known of his paintings is the "Primavera" or "Spring" in the Florence Academy of Fine Arts. In his later years Botticelli became an ardent disciple of Savonarola, and is said by Vasari to have neglected his painting for the study of mystical theology.

Bottle Gourd, a gourd called also the white pumpkin. The Hindus cultivated it largely as an article of food.

Bottle Nose, a cetacean, the bottle nosed whale, very destructive to food

fishes, and of comparatively little economic value itself.

Botts, John Minor, an American legislator, born in Dumfries, Va., Sept. 16, 1802. He studied law and, in 1833, entered the Virginia legislature. He was elected to Congress in 1839 and was frequently re-elected. Upon the outbreak of the Civil War he asserted his devotion to the Union, and, in 1862, he suffered imprisonment on that account. After the war he was one of Jefferson Davis' bondsmen; and attended the Convention of Southern Loyalists, in Philadelphia. He died in Culpepper, Va., Jan. 7, 1869.

Boucher, Jonathan, an American loyalist during the period prior to the Revolutionary War. He was born in England in 1738, came to America at the age of 21, and later became rector of William and Mary College in Virginia. With all the force of a vigorous nature he opposed the Revolution with voice and pen, until he was forced to leave the country and return to England. In a volume of collected discourses, which he dedicated to Washington with whom he was on terms of intimate friendship, he sets forth the position of the American loyalists during the agitation that led up to the Revolution.

Boucicault, Dion, a dramatic author and actor, born in Dublin, Dec. 26, 1822; educated at London University. He produced his first dramatic work, "London Assurance," before he was 19 years old. It was signally successful, and its success determined his career in life. Once embarked in the profession of a play writer, Boucicault produced piece after piece in rapid succession, and greatly increased the reputation which his first attempt had brought him. Boucicault distinguished himself equally in comedy, farce and melodrama. When he went upon the stage, as he soon did, he added a high reputation as an actor to the reputation he had previously gained as an author. From 1853 to 1860 he was in the United States, where his popularity was scarcely less than it had been in England. His chief works include "The Octoroon," "Colleen Bawn," "Arrah-na-Pogue," "Used up," "The Corsican Brothers," "The Shaugraun." Died, New York city, Sept. 18. 1890.

Boudinot, Elias, a distinguished American patriot and philanthropist, born in Philadelphia, May 2, 1740; was President of the Continental Congress (1782), and first President of the American Bible Society (1816-1821). He died in Burlington, N. J., Oct. 24, 1821.

Bougainville, Louis Antoine de, a French navigator, born in Paris, Nov. 11, 1729. At first a lawyer, he afterward entered the army and fought bravely in Canada, under the Marquis of Montcalm. After the battle in which Montcalm was killed, Bougainville returned to France and served with distinction in the campaign of 1761, in Germany. After the peace he entered the navy, and became a distinguished naval officer. Bougainville then made a voyage round the world, which enriched geography with a number of new discoveries. In the American War of Independence he distinguished himself at sea, but withdrew from the service after the Revolution. He died in Paris, April 31, 1811.

Boughton, George Henry, an English-American landscape and genre painter, born near Norwich, England, in 1834. His parents came to the United States in 1839, and settled in Albany. He studied art without a master, and, in 1853, went to London and Paris to continue his studies. He died in London, Jan. 19, 1905.

Boughton, Willis, an American educator, born in Victor, N. Y., April 17, 1854. He has won note in the work of university extension.

Bouguereau, Guillaume Adolphe, a French painter, born 1825. His admirers consider him prëeminent as a painter of flesh, but there is a certain theatric air about his work that fails to recommend it to the most discriminating. He was president of the Société des Artistes in 1885. His paintings always attract attention and are well known through reproductions, his pictures of child-life being especially striking. Among his later works are "Psyche et l 'Amour," "L'Admiration," and "Compassion," He died April 19, 1905.

Bouillé, Francois Claude, Amour, Marquis de, a French general, born in Cluzel, Nov. 19, 1739;

entered the army at the age of 14 and served with distinction in Germany during the Seven Years' War. In 1768 he was appointed governor of the island of Guadeloupe, and afterward commander-in-chief of all the French forces in the West Indies. When war broke out in 1778, he successively took from the British, Dominica, Tobago, St. Eustache, Saba, St. Martin, St. Christopher's, and Nevis. Louis XVI. nominated him a member of the Assembly of Notables in 1787–1788; in 1790 he was made commander-in-chief of the army of the Meuse, the Saar, and the Moselle. His decision of character prevented the dissolution of the army and the outbreak of civil war. For his share in the attempted escape of Louis XVI. he had to flee from France. In 1791 he entered into the service of Gustavus III., of Sweden, and afterward served in the corps of the Prince of Conde. He rejected a proposal, made in 1793, that he should take the chief command in La Vendee; and went to England, where his advice in West Indian affairs was useful to the government. He died in London, Nov. 14, 1800.

Boulainvilliers, Henry, Count, a French author, descended from an ancient family in Picardy, born in St. Saire, Normandy, Oct. 11, 1658; died in Paris, Jan. 23, 1722.

Boulanger, Georges Ernest Jean Marie, a French soldier, born in Rennes, April 29, 1837. After a successful career in Algeria and in the East he became Minister of War. In the ministerial crisis of 1887 he lost his portfolio, and was appointed to the command of the 13th Army Corps, but was retired March 28, 1888. In January, 1889, he was elected Deputy to the National Assembly by 81,000 majority, in consequence of which the Floquet ministry resigned. In August, 1889, he was charged with embezzlement, treason and conspiracy, and found guilty by the Senate; the elections in the 12 cantons were annulled, and he was sentenced to deportation. He died in Brussels, Sept. 30, 1891.

Boulder, a large, rounded block of stone, which, whether lying loose on the surface of the ground or imbedded in the soil, is of different composition from the rocks adjacent to which it now rests.

Boulder Formation, a formation consisting of mud, sand, and clay, more frequently unstratified than the reverse, generally studded with fragments of rocks, some of them angular, others rounded, with boulders scattered here and there through the mass.

Boulevard, a French word formerly applied to the ramparts of a fortified town, but when these were leveled, and the whole planted with trees and laid out as promenades, the name boulevard was still retained. Modern usage applies it also to many streets which are broad and planted with trees.

Boulogne, or **Boulogne-sur-Mer,** a fortified seaport of France, Department of Pas de Calais, at the mouth of the Liane. It consists of the upper and lower town. The former is surrounded with lofty walls, and has well planted ramparts; the latter, which is the business part of the town, has straight and well built streets. In the castle, which dates from 1231, Louis Napoleon was imprisoned in 1840. Napoleon, after deepening and fortifying the harbor, encamped 180,000 men here with the intention of invading England at a favorable moment; but, upon the breaking out of hostilities with Austria, in 1805, they were called to other places. Pop. (1901) 49,083.

Boulton, Matthew, an English mechanician, born in Birmingham, Sept. 3, 1728. He engaged in business as a manufacturer of hardware, and invented and brought to great perfection inlaid steel buckles, buttons, watch chains, etc. The introduction of the steam engine at Soho led to a connection between Boulton and James Watt, who became partners in trade, in 1769. He died in Soho, Aug. 16, 1809.

Bounty, a grant or benefaction from the Government to those whose services directly or indirectly benefit it, and to whom, therefore, it desires to accord some recompense, or at least recognition.

Bounty Jumper, a term used during the Civil War in the United States to denote one who enlisted in the United States military service to secure the bounty paid by the Government for volunteers, and then deserted.

Bouquet de la Grye, Jean Jacques Anatole, a French hydrographical engineer, born in Thiers, May 20, 1827. He became a member of the Institute; commander of the Legion of Honor, and a member of the Academy, elected in 1884. A project which he has long urged is to make Paris a seaport by means of a ship-canal up the Seine.

Bourbon, an ancient French family which has given three dynasties to Europe, the Bourbons of France, Spain, and Naples. The first of the line known in history is ADHEMAR, who, at the beginning of the 10th century, was Lord of the Bourbonnais (now the Department of Allier). The power and possessions of the family increased steadily through a long series of Archambaulds of Bourbon, till, in 1272, BEATRIX, daughter of Agnes of Bourbon and John of Burgundy, married Robert, sixth son of Louis IX. of France, and thus connected the Bourbons with the royal line of the Capets. Their son, LOUIS, had the barony converted into a dukedom and became the first Duc de Bourbon. Two branches took their origin from the two sons of this Louis, Duke of Bourbon, who died in 1341. The elder line was that of the Dukes of Bourbon, which became extinct at the death of the Constable of Bourbon in 1527, in the assault on the city of Rome. The younger was that of the Counts of La Marche, afterward Counts and Dukes of Vendome. From these descended ANTHONY of Bourbon, Duke of Vendome, who, by marriage, acquired the kingdom of Navarre, and whose son, HENRY of Navarre, became Henry IV. of France.

By the death of the Count of Chambord, in 1883, the elder line of the Bourbons of France became extinct, and the right of succession merged in the Count of Paris, grandson of King Louis Philippe, representative of the younger, or Orleans line.

Bourbon, Charles, Duke of, or **Constable of Bourbon,** son of Gilbert, Count of Montpensier, born in 1489, and, by his marriage with the heiress of the elder Bourbon line, acquired immense estate. He received from Francis I., in the 26th year of his age, the sword of Constable, and in the war in Italy rendered important services by the victory of Marignano and the capture of Milan. On May 6, 1527, his troops took Rome by storm, and the sacking and plundering continued for months. But the Bourbon himself was shot as he mounted the breach at the head of his soldiers. He was but 38 years of age.

Bourbonnais, a village of Illinois in Kankakee county, 55 miles south of Chicago. Noted since 1865 as the seat of the R. C. College of St. Viateur's, and of Notre Dame Academy.

Bourdaloue, Louis, a Jesuit, and one of the greatest preachers France ever produced, was born in 1632. The extreme popularity of his sermons induced his superiors to call him to Paris, and he became the favorite preacher of Louis XIV. Died in 1704.

Bourdon (named after Mr. Bourdon of Paris, who invented it in 1849), a barometer consisting of an elastic flattened tube of metal bent to a circular form and exhausted of air, so that the ends of the tube separate as the atmospheric pressure is diminished, and approach as it increases.

Bourgeoisie, a name applied to a certain class in France, in contradistinction to the nobility and clergy as well as to the working classes.

Bourget, Paul, a French novelist, born in Amiens, Sept. 2, 1852. He was admitted to the Academy in 1894. He ranks among the first of the present day French novelists.

Bourinot, John George, a Canadian publicist, born in Sydney, Nova Scotia, Oct. 24, 1838. He was educated at Trinity College, Toronto; founded and edited the "Halifax Reporter," became clerk of the Dominion Parliament in 1880; was created a member of the Order of St. Michael and St. George in 1890; and in 1892 became President of the Royal Society of Canada. Died, Oct. 12, 1902.

Bourke, John Gregory, an American military officer, born in Philadelphia, Pa., June 23, 1846. He was graduated at West Point in 1869, and saw much service against the Indians, rising through various grades to the rank of major. He became an expert in American ethnological lore. He was an officer of great courage and ability. He died in Philadelphia, Pa., June 8, 1896.

Bourmont, Louise Auguste Victor de Ghaisne, Comte de, Marshal of France, born in Anjou, Sept. 2, 1773; died in Anjou, Oct. 27, 1846.

Bourne, Hugh, founder of the sect of Primitive Methodists, born in Staffordshire, England, April 3, 1772. In the course of his life he visited Scotland, Ireland, Canada, and the United States, where his ministrations were attended with great success. He died in Bemersly, Oct. 11, 1852.

Bourrienne, Fauvelet de, a French diplomatist, born in 1769, and educated along with Bonaparte at the School of Brienne, where a close intimacy sprang up between them. Bourrienne went to Germany to study law and languages, but, returning to Paris in 1792, renewed his friendship with Napoleon, from whom he obtained various appointments, and, latterly, that of minister plenipotentiary at Hamburg. Notwithstanding that his character suffered from his being involved in several dishonorable monetary transactions, he continued to fill high State offices, and, in 1814, was made prefect of police. On the abdication of Napoleon he paid his court to Louis XVIII., and was nominated a Minister of State. The Revolution of July, 1830, and the loss of his wealth affected him so much that he lost his reason, and died in a lunatic asylum in 1834.

Bourse, an exchange where merchants, bankers, etc., meet for the transaction of financial business. Used especially of the Stock Exchange of Paris.

Boussa, or **Bussang,** a city of Africa, in the Sudan, on the Niger, near which are rapids. It was here that Mungo Park met his death in 1805. Pop. est. 12,000 to 18,000.

Boutelle, Charles Addison, an American legislator, born in Damariscotta, Me., Feb. 9, 1839; served in the navy during the Civil War, entering as an acting master, and being promoted to lieutenant for gallantry in action. In 1870 he became the editor of the Bangor "Whig and Courier." He was elected to Congress in 1882, and held his seat till December, 1900, when he resigned, and was made a captain on the retired list of the navy. He was author of the bill (1890) authorizing the construction of the first modern battleship of the United States Navy. He died in Waverly, Mass., May 21, 1901.

Boutwell, George Sewell, an American statesman, born in Brookline, Mass., Jan. 23, 1818; was admitted to the bar in 1836; served in the state Legislature in 1842–1851; Governor of Massachusetts in 1851-1852; was organizer of the Republican Party in 1854; appointed the first commissioner of the newly established Department of Internal Revenue in 1862; a Representative in Congress in 1863–1869; one of the managers of the impeachment trial of President Johnson; Secretary of the Treasury in 1869-1873; and a U. S. Senator, 1873-79. He died Feb. 28, 1905.

Bouvard, Alexis, a Swiss mathematician and astronomer, born in 1767; went to Paris about 1785 to study mathematics and astronomy, and in 1793 obtained a position in the Paris Observatory. He is celebrated for his researches in the theory of planetary motions, especially those of Jupiter and Saturn. Later he took up the theory of Uranus, and was the first to suggest that the discrepancies between the old and new observations could only be reconciled by the hypothesis of another undiscovered disturbing planet, an opinion which he retained till his death, three years before the discovery of Neptune.

Bovidæ, the ox family of ruminating animals, containing not merely the oxen, but many others animals, placed in other families, such as the bison, buffalo, yak, zebu, etc. They are generally of large size, with broad, hairless muzzles; most of them have been domesticated.

Bowditch, Henry Ingersoll, an American physician, born in Salem, Mass., Aug. 9, 1808. He discovered the law of soil moisture as a cause of consumption in New England; introduced several new features in surgical treatment, and was author of many general and special works in medical science. He died in Boston, Mass., Jan. 14, 1892.

Bowditch, Henry Pickering, an American educator, born in Boston, Mass., April 4, 1840; was graduated

at Harvard in 1861, and subsequently studied chemistry and medicine, and, after the Civil War, in which he reached the rank of major in the Union service, he took a special course in physiology in France and Germany. In 1871–1876 he was Assistant Professor of Physiology in the Harvard Medical School, and in 1876 was elected to the full chair. He is a member of the American Academy of Arts and Sciences, as well as of numerous medical societies, and has published many papers on physiological subjects.

Bowdoin, James, an American patriot, born in Boston, Aug. 8, 1727. He was prominent in Massachusetts during the Revolution. He became governor of his State in 1785, and, in the following year, suppressed Shay's rebellion. Bowdoin College was named after him. He died in Boston, Nov. 6, 1790.

Bowdoin College, a co-educational institution in Brunswick, Me.; organized in 1794 under the auspices of the Congregational Church; but is now non-sectarian. Its several departments have about 400 students, and 40 instructors.

Bowen, Henry Chandler, an American editor and publisher, born in Woodstock, Conn., Sept. 11, 1813. He received a common school education and entered business. In 1848 he helped found "The Independent," in New York. He died in Brooklyn, N. Y., Feb. 24, 1896.

Bowen, Herbert Wolcott, United States Minister to Venezuela, who acquired world-wide repute as a diplomatist by his management in behalf of Venezuela of negotiations with England, Germany, and Italy, which brought to a close the blockade of Venezuela ports by those powers in 1902-1903. Mr. Bowen was born in Brooklyn, N. Y., Feb. 29, 1856; studied at the Brooklyn Polytechnic, in Europe and at Yale, and was graduated with honor from the Columbia Law School in 1881. He practiced law in New York, and was appointed in 1890 Consul and Consul-General to Barcelona, and afterward Minister to Persia. In June, 1901, he was appointed Minister to Venezuela. When the allies began war on Venezuela to compel payment of certain claims President Castro requested Mr. Bowen to act in behalf of Venezuela in arranging terms for a settlement. He was a successful diplomat, but in June, 1905, was dismissed from gov't service owing to injudicious charges against his predecessor, Assist. Sec. of State F. B. Loomis.

Bower Birds, the name given to certain birds found in Australia. The name is given because these birds are in the habit of building bowers as well as nests.

Bowery, The, a New York street. It begins at Chatham Square and terminates at Cooper Union. It was long notorious for the resorts located along its length, but its character has undergone improvement.

Bowie, James, an American frontiersman, born in Burke county, Ga., about 1790. He took part in the revolt of Texas against Mexico, and fell in the Alamo massacre, March 6, 1836. He gave his name to the bowie knife.

Bowling, an ancient English game, still exceedingly popular. The favorite form in the United States is played indoors, in an "alley" 50–65 feet long and about 6 feet wide. At the further end 10 "pins," generally of ash wood, are set up in the form of a triangle. The players roll wooden balls at these, with the object of knocking down as many as possible at each throw.

Bowman, Edward Morris, American organist and musical theorist, b. Barnard, Vt. in 1848; studied in Berlin, Paris, and London, under famous masters; and was the first American A. R. C. O. of London. In 1877 he published "Bowman-Weitzmann's Manual of Musical Theory," and soon ranked among America's foremost musical pedagogues, in 1891 succeeding Dr. F. L. Ritter at Vassar. He was organist of the Bapt. Temple, Brooklyn, 1895-1905; since, of Calvary Ch., N. Y. C.

Bowne, Borden Parker, an American philosophical writer, born in Leonardsville, N. J., Jan. 14, 1847. He was religious editor of the New York "Independent," 1875-1876, becoming Professor of Philosophy at Boston University in 1876. D. 1910.

Box, the English name of buxus, a genus of plants. In its wild state

it is a small tree. It is found all over the world in some form of species. It is an evergreen.

Boxers, members of a Chinese secret society which aims ostensibly at the expulsion of foreigners. The origin of the Boxers appears to have been due to fanatic opposition to Christian missionaries, and to the encroachments of European powers upon Chinese territory.

Early in 1900 the native population in Shantung were found to be rallying around the standard of the Boxers and adopting its motto, "Uphold the dynasty, drive out the foreigners." The Diplomatic Corps at Peking called upon the Imperial Government to suppress the movement. In May, 1900, they began a concerted movement upon the Chinese capital which, notwithstanding the protests of the Diplomatic Corps, remained unchecked.

The situation had been rendered additionally threatening by the action of the allies in opening fire upon the forts at Taku. On June 17 the warships of the Powers were in force at that port; when fired upon by the Chinese they opened a bombardment. The demonstration before Taku had been deprecated by the United States commander, Admiral Kempff, who did not participate in the bombardment. His warning that hostilities would unite the Chinese against the foreigners was justified by events.

In June, 1900, Peking was reduced to a state of siege by the Boxers. The position of the foreigners in the capital became precarious. The entire Diplomatic Corps was cut off from communication with the outside world. After capturing Tien-Tsin the forces of the powers advanced on Peking, defeating the Chinese who opposed them, and rescuing the legations from destruction. The troops were just in time to save the inmates of the legations, and a large number of native Christians from outrage and massacre. The Chinese court fled from Peking, and after many months of desultory warfare and negotiation China consented to pay full indemnity and to punish the officials guilty of inciting the Boxers. The society is still a menace to foreigners.

Boxing. See PUGILISM.

Box Tortoise, a name given to one or two North American tortoises that can completely shut themselves into their shell.

Boyaca, a Department of Colombia, touching Venezuela. In the W. it is mountainous; in the E. it has vast prairies, and is watered by the Meta and its tributaries. The Muzo emerald mine is the richest in the world, and the Department is rich in salt springs, coal, iron, plumbago, and copper ore. Area, 33,351 square miles; population (est.) 645,000. Capital, Tunja.

Boyar, Boiar, or **Boyard,** a name first used by the Bulgarians, Serbs and Russians, subsequently adopted by the Moldavians and Wallachians, and synonymous with bojarin, used by the Bohemians, Poles, and other Slavic tribes, to qualify the highest social condition; corresponding in certain respects to that of an English peer.

Boycotting, a practice which owes its name to Capt. C. C. Boycott (died June 21, 1897), of Lough Mask House, in Mayo, Ireland, and agent, in 1880, of Lord Erne, an Irish nobleman. The former gentleman having given offense about agrarian matters to the people among whom he lived, during the land agitation of 1880–1881, no one would gather in his crops. The case being reported in the "Press," about 60 Orangemen, belonging to the North of Ireland, each man carrying a revolver, organized themselves into a "Boycott relief expedition." The Government gave them a strong escort of cavalry, besides foot soldiers and constabulary, artillery also being added on the return journey. The crops were gathered in and sent away, and the Captain himself brought off to a region of greater security. The object of a boycott is to put a person outside the pale of the society, amid which he lives, and on which he depends; socially to outlaw him, to refuse to sell to, and decline to buy from, him; to refuse to work for or to employ him.

In the United States and in England the boycott is made use of by trade unionists as a strike measure. It has in some instances been enjoined by the courts, and in some States laws have been passed against it.

Boyd, Belle, a Confederate spy, born in Martinsburg, W. Va., May 9, 1843. She rendered aid to the Southern cause by detecting the Federal plans of campaign and revealing them to the Confederates. Gen. "Stonewall" Jackson sent her a letter of thanks. She died at Kilbourn, Wis., June 11, 1900.

Boyd, Thomas Duckett, an American educator, born in Wytheville, Va., Jan. 20, 1854. He was graduated at Louisiana State University, and has held important posts in the educational institutions of Louisiana. Since 1896 he has been President of Louisiana State University.

Boyden, Seth, an American inventor, born in Foxboro, Mass., Nov. 17, 1788; was brought up on a farm, and attended a district school. Mechanically inclined, he spent much time experimenting in a blacksmith shop. His first invention was a machine for making nails, and in 1809 he undertook to manufacture both nails and files. Soon afterward he invented a machine for splitting leather, and in 1815, he took it to Newark, N. J., where he engaged in the leather business. In 1816 he invented a machine for cutting brads, and followed this by the invention of patent leather, which he manufactured till 1831, when he began making malleable iron castings, on a system of his own. In 1835 he turned his attention to steam engines; substituted the straight axle for the crank in locomotives; and invented the cut-off now used instead of the throttle valve. In 1849 he went to California, but was unsuccessful, and returned to New Jersey, where he applied himself to farming, and developed a variety of strawberry previously unequaled in size or quality. He died in Middleville, N. J., March 31, 1870.

Boyer, Jean Pierre, President of the Republic of Haiti, was a mulatto, born in Port-au-Prince in 1776. He was educated in France, and, in 1776, entered the military service. He was unanimously elected President of the Republic in 1818. He arranged the financial affairs, collected funds into the treasury, improved the administration, and encouraged arts and sciences. After the death of Christophe, he united the monarchical part of the island with the Republic in 1820; and, in 1821, the eastern district also, which had hitherto remained under the dominion of Spain; and he urgently sought the recognition of the independence of the youthful State by France, which was obtained, in 1825, upon payment of an indemnity of 150,000,000 francs. Boyer carried on the government of the Republic of Haiti for 15 years from this time with the most perfect peace; but his policy, which was rather arbitrary, and directed to the object of depressing the negroes in favor of his own race, resulted in a victorious insurrection in 1843. Boyer fled to Jamaica. In 1848 he went to Paris, and died there, July 9, 1850.

Boyesen, Hjalmar Hjorth, an American novelist, born at Frederiksvarn, Norway, Sept. 23, 1848. He came to the United States in 1869; returned to Europe in 1872 and studied Germanic Philology at Leipsic two years; then, returning to this country, he was Professor of German in Cornell University for six years, and then of Germanic Languages and Literature in Columbia College till his death. He died in New York, Oct. 4, 1895.

Boy Scouts, a semi-military organization, founded in England in 1910 and introduced into the United States the same year. The object is to develop patriotism, discipline, courage, and self-control in boys, as well as to put the Golden Rule into daily practice. The unit of the organization is the "patrol" of from six to eight boys; a "troop" comprises two or more "patrols;" and the "scout master" is the officer in charge of a troop. Lieut.-Gen. Sir Robert Baden-Powell was the father of the boy scout movement in England, and Ernest Thompson Seton in the United States. In both countries the idea took at once with boys and found general favor among their elders. In 1910 the founder visited New York in its interest.

Boyton, Paul, an Irish-American swimmer, born in Dublin, June 29, 1848; served in the United States navy in 1863–1865. He invented a life-preserving suit, in which in 1874, he leaped from a vessel off the coast of Ireland, and, after remaining seven hours in the water, reached land safe-

ly. On May 28, 1875, he crossed the English Channel in this suit, swimming across in 24 hours. In 1876 he made the run from the Bayou Goula to New Orleans, La., 100 miles, in 24 hours. In May, the same year, he descended the Danube from Linz to Budapest, 460 miles, in six days. Later he went from Oil City, Pa., to the Gulf of Mexico, 2,342 miles, in 80 days, being exposed at first to great cold and later to extreme heat. In November, 1879, he descended the Connecticut river from Canada to Long Island Sound. On Sept. 17, 1881, he started from Cedar Creek, Mont., to swim to St. Louis, Mo., and accomplished the long journey, 3,580 miles, Nov. 20. In 1888 he made a voyage down the Ohio river. He published an account of his travels.

Bozrah, an ancient city of Palestine, E. of the Jordan, and about 80 miles S. of Damascus.

Bozzaris, Marcos, a Greek patriot, born in 1789. He was a Suliote, and distinguished himself by his devotion to his country, in defending it against the Turks. He fell in a night attack upon a body of the Turco-Albanian army, who were advancing with the view of taking Missalonghi, which he had successfully defended for a considerable time, Aug. 20, 1823.

Brabant, the central district of the lowlands of Holland and Belgium, extending from the Waal to the sources of the Dyle, and from the Meuse and Limburg plains to the Lower Scheldt. It is divided between the Kingdoms of Holland and Belgium, into three provinces, (1) Dutch or North Brabant, area 1,977 square miles, population 516,670; (2) Belgian Province of Antwerp, area of 1,095 square miles, pop., 713,740; and (3) the Belgian Province of South Brabant, area, 1,276 square miles, pop., 1,120,976.

Brachiopoda, animals with arm-like feet; one of the great classes into which the moluscous sub-kingdom of the animal kingdom is divided.

Bracken, or **Brake,** a species of fern very common in the United States and Europe generally, and often covering large areas on hillsides and waste grounds.

Braddock, a borough in Allegheny county, Pa.; on the Monongahela river and the Pennsylvania and other railroads; 10 miles S. E. of Pittsburg; has extensive iron and steel, wire, chain, car, and ice plants, and large coal-mining interests. It was the scene of Gen. Braddock's defeat. Pop. (1910) 19,357.

Braddock, Edward, a British soldier, born in Perthshire, Scotland, about 1695, entered the Coldstream Guards in 1710, and was appointed Major-General in 1754. Nine months later he sailed as commander against the French in America, and, with a force of nearly 2,000 British and provincial troops, reached the Monongahela, on July 8, 1755. On the 9th he pushed forward to invest Fort Duquesne, on the present site of Pittsburg, Pa. On the right bank of the river he was attacked by a party of 900 French and Indians, and 63 out of 86 officers, and 914 out of 1,373 men engaged, were either killed or wounded. Braddock was carried from the field, and died July 13.

Bradford, city in McKean co., Pa.; on several railroads; 67 miles S. of Buffalo, N. Y.; is in a noted petroleum, natural gas, and coal-mining region; has oil pipe-lines to seaboard; and manufactures machinery, glass, boilers, motor-cycles, chemicals, and tanks and well supplies. Pop. (1910) 14,544.

Bradford, a municipal and parliamentary borough and important manufacturing town in the W. Riding of Yorkshire, England, the chief seat in England of the spinning and weaving of worsted yarn and woolens. Pop. (1901) 280,161.

Bradford, Joseph, an American journalist and dramatic author, born near Nashville, Tenn., Oct. 24, 1843. His real name was WILLIAM RANDOLPH HUNTER. Besides satirical verses he wrote a number of poems which were highly esteemed, especially those on the death of Victor Hugo and of General Grant. He died in Boston, Mass., April 13, 1886.

Bradford, Royal B., an American naval officer, born in Turner, Me., July 22, 1844. He was graduated at the United States Naval Academy in 1865, and received promotion through various grades to the rank of Com-

mander. He has made a specialty of equipment, and since 1897 has been Chief of the Bureau of Equipment at the Navy Department in Washington.

Bradford, William, an American painter, born in New Bedford, Mass., in 1827. He entered business early in life, but abandoned it for art. His subjects were the ice fields of the North Atlantic. He died in New York city, April 25, 1892.

Bradford, William, an American colonial governor and author, born in Austerfield, Yorkshire, England, in March, 1588. He was one of the signers of the celebrated compact on the Mayflower; and, in 1621, on the death of the first governor, John Carver, was elected to the same office, which he continued to fill (with the exception of a brief period when he declined re-election) until his death. His administration was remarkably efficient and successful, especially in dealing with the Indians. He died in Plymouth, Mass., May 9, 1657.

Bradlee, Nathaniel, an American architect, born in Boston in 1829; began the study of architecture in 1846. He achieved wonderful success, having been the architect of over 500 prominent buildings in the city of Boston. In 1869 he made a national reputation by moving bodily the large brick structure known as the Hotel Pelham to the corner of Tremont and Boylston streets. The work attracted wide attention, both in this country and in Europe. He subsequently superintended the removal of the Boylston Market. He died in 1888.

Bradley, John Edwin, an American educator, born in Lee, Mass. He was graduated at Williams College, in 1865. He served as principal of the High School at Pittsfield, Mass., and at Albany, N. Y. In 1892–1900 he was President of the Illinois College.

Bradley, Joseph Philo, an American jurist, born in Berne, N. Y., March 14, 1843; was graduated at Rutgers College in 1836; admitted to the bar in 1839; and became a Justice of the United States Supreme Court in 1870. As a member of the Electoral Commission he cast the vote which gave the Presidency to General Hayes, in 1877. He died in Washington, D. C., Jan. 22, 1892.

Bradstreet, Anne, the earliest American poet, born in Northampton, England, in 1612. She was a daughter of Gov. Thomas Dudley. In 1630 she emigrated to America with her husband, Simon Bradstreet, Governor of Massachusetts. Her poems are quaint and literal in style. She died Sept. 16, 1672.

Brady, Cyrus Townsend, author and P. E. clergyman, born in Allegheny, Pa., Dec. 20, 1861; graduated 1883 at the United States Naval Academy; and was ordained priest in 1890. His published writings include several volumes of fiction, and semi-historical works.

Bragg, Braxton, an American military officer; born in Warren Co., N. C., March 22, 1817; graduated at West Point, in 1837; was appointed Second Lieutenant in the 3d Artillery; served with distinction under General Taylor in the Mexican War; and retired to private life in 1856. At the outbreak of the Civil War, he became a Brigadier-General in the Confederate army, and was stationed at Pensacola to act against Fort Pickens. In 1862, having been appointed a general of division, with orders to act under Gen. A. S. Johnston, commanding the Army of the Mississippi, he took an important part in the two days' battle of Shiloh. On Johnston's death he was appointed to his command, with the full rank of General, and succeeded General Beauregard as commander of the Department, in July of the same year. The last command he resigned in December, 1863. His chief success was at Chickamauga, in September, 1863, when he inflicted a defeat on the army of General Rosecrans, but was himself, in turn, defeated by General Grant, which led to his temporary removal from command in January, 1864, and he was appointed military adviser to Jefferson Davis. In 1864, he assumed command of the Department of North Carolina. After the war he was chief engineer of the State of Alabama, and superintended the improvements in Mobile Bay. He died in Galveston, Tex., Sept. 27, 1876.

Bragg, Edward Stuyvesant, an American legislator, born in Unadilla, N. Y., Feb. 20, 1827; educated at Geneva, now Hobart, College, and admitted to the bar in New York, in

1848. He removed to Fond du Lac, Wis., served in the Union army during the Civil War, and won his way to the rank of Brigadier-General. He was a member of the Union Convention, at Philadelphia, in 1866; Representative in Congress in 1877–1885; and a delegate to the Democratic National Conventions of 1872, 1884, 1892, and 1896. In the Convention of 1884, he seconded the renomination of Grover Cleveland, when he uttered the memorable phrase, "We love him for the enemies he has made." In 1888 he was appointed minister to Mexico; and in June, 1902, became the first United States consul-general in Havana under the new republic of Cuba, retiring the same year on account of a letter which he wrote reflecting on the Cubans.

Bragi, the Scandinavian god of poetry. He is represented as an old man with a long flowing beard, like Odin; yet with a serene and unwrinkled brow. His wife was Idunna.

Brahe, Tycho, a Swedish astronomer, born in Knudstrup, near Lund, Dec. 14, 1546. He was descended from a noble family, and was sent, at the age of 13, to the University of Copenhagen, where he had not been more than a year, when an eclipse of the sun turned his attention to astronomy. His uncle destined him for the law, but Brahe, while his tutor slept, busied himself nightly with the stars. In 1573 he married a peasant girl. After some time spent in travel, Brahe received from his sovereign, Frederic II., the offer of the island of Hven or Hoene, in the Sound, as the site for an observatory, the King also offering to defray the cost of erection, and of the necessary astronomical instruments, as well as to provide him with a suitable salary. Brahe accepted the generous proposal, and, in 1576, the foundation stone of the castle of Uraienburg ("fortress of the heavens") was laid. Here, for a period of 20 years, Brahe prosecuted his observations with the most unwearied industry. So long as his munificent patron, Frederick II., lived, Brahe's position was all that he could have desired, but on his death in 1588 it was greatly changed. For some years, under Christian IV., Brahe was just tolerated; but in 1597 his persecution had grown so unbearable that he left the country altogether, having been the year before deprived of his observatory and emoluments. After residing a short time at Rostock and at Wandsbeck, near Hamburg, he accepted an invitation of the Emperor Rudolf II.— who conferred on him a pension of 3,000 ducats — to Benatek, a few miles from Prague, where a new Uranienburg was to have been erected for him; but he died at Prague on Oct. 24, 1601.

Brahma, the name of the first of the three gods who constitute the triad of principal Hindu deities. The epithets applied to this divinity are very numerous.

Brahman, Brahmin, Bramin, or **Brachman,** one of the Aryan conquerors of India, who discharged priestly functions, whose ascendency, however, over his fellows was intellectual and spiritual, but not yet political or supported by the caste system; also one of the four leading castes of India.

Brahmanism, or **Brahminism,** the system of religious belief and practice introduced and propagated by the Brahmans.

Brahmaputra, a large river of Asia, whose sources, not yet explored, are situated near Lake Manasarovara, in Tibet, near those of Indus.

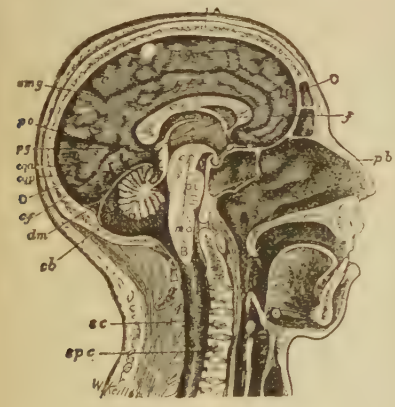
Brahmo-Somaj, or the Thiestic Church of India, was founded in 1830 by an enlightened Brahman, who sought to purify his religion from impurities and idolatries.

Brain, the encephalon, or center of the nervous system and the seat of consciousness and volition in man and the higher animals. See ILLUSTRATION.

Brainard, David Legg, an American explorer, born in Herkimer county, N. Y., Dec. 21, 1856. He received a common school education and enlisted as a private in the United States army in 1876. He rose to distinction in the Greeley Arctic Expedition and was promoted through the various grades to the rank of Colonel. In 1899 he was sent as Chief Commissary to Manila, Philippine Islands.

Brainard, John Gardiner Calkins, an American poet, born in New London, Conn., Oct. 21, 1796; died in New London, Conn., Sept. 26, 1828.

Braine, Daniel Lawrence, an American naval officer, born in New York city, May 18, 1829. He entered the United States navy in 1846 and became a Rear-Admiral. He served with distinction through the Mexican and Civil Wars. In 1873 he obtained the surrender by Spain of 102 survivors of the "Virginius" prisoners. He died in Brooklyn, N. Y., Jan. 30, 1898.



HUMAN BRAIN.

Median Longitudinal Section through Head and Upper Part of Neck, to Show Relation of Brain to Cranium and the Spinal Cord.

c, cerebrum; *cb,* cerebellum; *sc,* spinal cord; *spc,* spinal column; *mo,* medulla oblongata passing, through foramen magnum, into the spinal cord; *pv,* pons Varolii; *cp,* cerebral peduncles or crura cerebri; *cqa,* anterior corpora quadrigemina; *cqp,* posterior corpora quadrigemina; *pg,* pineal gland; *pb,* pituitary body; *cc,* corpus collosum, divided transversely; *f,* fornix; *mg,* marginal gyrus; *pf,* gyrus fornicatus; *cmg,* calloso-marginal suleus; *O,* occipital lobe; *po,* parieto-occipital fissure; *cf,* calcarine fissure; *dm,* dura mater, separating cerebrum from cerebellum.

Brainerd, David, an American missionary, born at Haddam, Conn., April 20, 1718. He entered Yale College in 1739, but three years later was expelled for declaring that one of the college tutors had no more of the grace of God than a chair. That same year he was licensed to preach, and sent as a missionary to the Indians in Massachusetts. He labored afterward among the Indians in Pennsylvania, and with much success in New Jersey, baptizing there no fewer than 77 converts, of whom 38 were adults. He died in Northampton, Mass., Oct. 9, 1747.

Brain Fever, a term in common use for inflammation of the lining membranes of the brain, meningitis; or of the brain itself, cerebritis. Brain fever is characterized by violent headache, intolerance of light, excitement, extreme sensitiveness, hyperæmia, delirium, convulsions, and coma.

Braintree, a town in Norfolk county, Mass.; on the New York, New Haven & Hartford railroad; 10 miles S. of Boston; is noted as the birth-place of many of the Adams family; and is chiefly engaged in granite quarrying. Pop. (1910) 8,066.

Brake, a device for regulating or stopping motion by friction. Railroad air-brakes consist of a cylinder and piston under each car, connected by tubes with a reservoir for compressed air, automatically filled by a special engine under control of the engineer.

Bramah, Joseph, an English inventor; born in Yorkshire in 1749; especially known for an ingenious lock, and for the hydraulic press. He died in Pimlico, Dec. 9, 1814.

Bramante d'Urbino (real name DONATO LAZZARI), an Italian architect, born in 1444. Showing an early taste for drawing, he was brought up to the profession of a painter, but he quitted it to dedicate his talents to architecture, which he cultivated with uncommon success. He first designed and commenced in 1513, the erection of St. Peter's at Rome, carried on and finished by other architects after his death. He was a great favorite with Pope Julius II., who made him superintendent of his buildings, and, under that pontiff, he formed the magnificent project of connecting the Belvidere Palace with the Vatican by means of two grand galleries carried across a valley. He built many churches, monasteries, and palaces at Rome, and in other Italian cities, and was employed by Pope Julius as an engineer to fortify Bologna, 1504. Bramante painted portraits with ability, and he was

skilled in music and poetry. He died in 1514.

Brambanan, a district of the Province of Surakarta, Java, rich in remains of Hindu temples, of which there are six groups, with two apparently monastic buildings. The edifices are composed entirely of hewn stone, and no mortar has been used in their construction. The largest is a cruciform temple, surrounded by five concentric squares, formed by rows of detached cells or shrines, embracing an area of 500 feet square. In several of these dagobas the cross-legged figures of Buddha remain but the larger figures which must have occupied the central temples have disappeared from all but one.

Bramble, or **Blackberry,** a plant having prickly stems, which somewhat resemble those of the raspberry. The flowers do not appear till the summer is considerably advanced, and the fruit ripens toward the end of it, continuing to be produced till the frosts of winter set in. The fruit is too well known to need description. In the United States blackberries are extensively cultivated for their fruit.

Bramwell, John Milne, a British physician and author, born at Perth, New Brunswick, Canada, 1852. He graduated from the University of Edinburgh, and made a specialty of hypnotism, combining with considerable success the Parisian and Nancy methods of hyponosis. His published writings include "What is Hypnotism?"

Bran, the skins or husks of ground maize, wheat, rye, or other grain, separated from the flour. The nutritive value of these husks increases as we proceed from the outside of the grain toward the interior. The outer skin, or coarse bran, is very indigestible, owing to the presence of a layer of silica.

Branch, that part of a plant which is produced from a lateral leaf bud on the primary axis or stem. It is looked upon as part of the stem, and not as a distinct organ.

Branchia, the gills of fishes and various other inhabitants of water. They are the apparatus for enabling the animal to extract oxygen from the water, instead of being dependent on the atmosphere for that life sustaining element.

Branchiopoda, Cuvier's first order of the sub-class entomostraca. The genera included under it, such as cyclops, cypris, apus, limnadia, branchipus, etc., are now generally ranked under several orders.

Branco, Rio, a river of Northern Brazil, which rises in the Parima Mountains, on the very borders of Venezuela; and, after a S. course of about 400 miles, joins the Rio Negro, of which it is the principal tributary, on its way to the Amazon.

Brand, Sir John Henry, a Boer statesman, born in Cape Town, Dec. 6, 1823. Queen Victoria knighted him in recognition of his aid. Brandford was named in his honor, and Ladybrand was named in honor of his wife. He died July 15, 1888.

Brandenburg, a province of Prussia, surrounded mainly by Mecklenburg and the provinces of Pomerania, Posen, Silesia, and Prussian Saxony. The soil consists in many parts of barren sands, heaths, and moors; yet the province produces much grain, as well as fruits, hemp, flax, tobacco, etc., and supports many sheep. The forests are very extensive. The principal streams are the Elbe, the Oder, the Havel, and the Spree; but the first two merely skirt the territory. Brandenburg carries on an active trade in manufactured articles, and is well situated for commerce, since it has many canals, rivers, good roads, and is intersected by the railways from Berlin to Leipsic, etc. The province of Brandenburg includes, besides some other districts, the greater part of the former mark of Brandenburg, which formed the cradle of the Prussian monarchy, and the center round which the present extensive kingdom has grown up. It is divided into the three administrative divisions of Berlin, Potsdam, and Frankfort, and it has a total area of 15,381 square miles, with a pop. (Dec. 1, 1900) of 3,108,554. Most of the inhabitants are Lutherans; the rest are chiefly Roman Catholics and Jews. From 1685 to 1688 many French refugees, Walloons, and inhabitants of Lorraine and of the Palatinate, settled in the mark. At present Brandenburg is the most important of the Prussian provinces, including as it

does the capital (Berlin), and the governments of Potsdam and Frankfort.

Brandes, Georg, a Danish literary critic of Jewish family; born in Copenhagen, Feb. 4, 1842, where he graduated at the university in 1864. Several books on æsthetic and philosophic subjects brought on him a charge of skepticism which was not removed by an epoch-making series of lectures, delivered before large audiences. In 1882 he returned to Copenhagen, his countrymen having guaranteed him an income of 4,000 crowns, with the one stipulation that he should deliver public lectures on literature.

Branding, an ancient mode of punishment by inflicting a mark on an offender with a hot iron. It is generally disused under the English civil law, but is a recognized punishment for some military offenses, as desertion. It is not, however, now done by a hot iron, but with ink, gunpowder, or some other preparation, so as to be visible, and not liable to be obliterated. The mark is the letter "D," not less than an inch in length, and is marked on the left side two inches below the armpit.

Brandt, Sebastian, a German author; born in Strasburg, in 1458; studied law and the classics with zeal at Basel, where he received permission to teach; and soon became one of the most influential lecturers in that city. The Emperor Maximilian showed his regard for Brandt by appointing him an imperial councilor. His fame rests wholly upon "The Ship of Fools," a satire on the follies and vices of the time (1494). Its distinguishing note is its abounding humor; but it owed its great popular success very largely to the clever woodcuts with which it was illustrated. He died in Strasburg in 1521.

Brandy, a spirit produced by the distillation of both white and red wines, and largely manufactured in the United States.

Brandywine Creek, in Pennsylvania and Delaware, is formed of two forks, the E. and W., which effect a junction in Chester county of the first named State, and, taking a S. E. course, empties into Christiana creek at Wilmington. Here, Sept. 11, 1777, was fought a severe battle between the British and German troops, 18,000 strong, under Howe, and the Americans numbering 13,000 men, under Washington. The consequence of this battle was the occupation of Philadelphia by the British troops.

Branner, John Casper, geologist, born in New Market, Tenn., 1850, graduated at Cornell University in 1874; was attached to the Brazilian Imperial Geological Commission 1875-1877, and in 1899 became vice-president of Leland Stanford University. His geological works are valuable.

Brant, Joseph, a Mohawk chief, born in Ohio in 1742. He participated in the campaign of 1755, and held the post of secretary to Col. Johnson, superintendent-general of Indian affairs. On the outbreak of the American Revolution, Brant took an active part in raising an Indian force to oppose the colonists, and was present at the action of Cherry Valley, and in other engagements. In 1786 he visited England and collected funds for an Anglican Church, the first erected in Canada West. He passed the closing years of his life at Burlington Bay, on Lake Ontario, on an estate granted him by the British Government. One of Brant's sons commanded a mixed Canadian and Indian force during the War of 1812. He died in Canada, Nov. 29, 1807.

Brantford, city and capital of Brant county, Ontario, Canada; on the Grand river and the Grand Trunk and other railroads; 65 miles S. W. of Toronto; contains many beautiful churches, Wickcliffe Hall (Y. M. C. A.), Court-house and county buildings of white brick, City Hospital, Technical School, and a number of benevolent homes; and manufactures farm implements, brass and iron castings, engines and mill machinery. Pop. (1901) 16,619.

Brasenose, one of the colleges of Oxford University, founded in 1509.

Brass, an alloy of copper and zinc, of a bright yellow color, hard, ductile, and malleable. The best brass consits of two parts by weight of copper to one of zinc. Before zinc was obtained in its metallic form brass was manufactured from calamine (native carbonate of zinc) mixed with copper and charcoal. Even now this process

is easier than the direct fusion together of the two metals. The proportion of copper and zinc vary.

Brasses, Monumental, large plates of brass, or of the mixed metal called latten or laton, inlaid on slabs of stone, and usually forming part of the pavement of a church.

Brassey, Lady Anne, an English descriptive writer born in London, about 1840. After her marriage she spent half of her life at sea, on Lord Brassey's yacht, the "Sunbeam." She died at sea Sept. 14, 1887.

Brassey, Thomas, an English engineer and railroad contractor, born in Baerton, Cheshire, Nov. 7, 1805. After receiving an ordinary education, he was, at the age of 16 years, apprenticed to a surveyor, whom he succeeded in business. After building parts of the Grand Junction and the London and Southampton railways, he contracted in 1840, in partnership with another, to build the railway from Paris to Rouen. In a few years he held under contract, in England and France, some 10 railways, involving a capital of $180,000,000, and employing 75,000 men. In partnership with Betts and Peto he undertook the Grand Trunk of Canada, 1,100 miles in length. He died Dec. 8, 1870. His son THOMAS, 1st Lord Brassey, born 1836, is an active British statesman. He has written "Work and Wages," "The British Navy," and other economical works.

Brassicaceæ, an order of plants more generally called cruciferæ (crucifers). Among the well known plants ranked under the order may be mentioned the wall flower, the stock, the watercress and other cresses, the cabbage, the turnip, etc.

Bravi, the name formerly given in Italy, and particularly in Venice, to those who were ready to hire themselves out to perform any desperate undertaking. The word had the same signification in Spain.

Bravo, Nicholas, a Mexican statesman, born in 1790. He participated in the revolution against Spain (1810–1817), and later aided Iturbide in establishing a republic. Under Santa Ana he twice acted as President. He died in 1854.

Bravura, an air requiring great skill and spirit in its execution, each syllable being divided into several notes. It is distinguished from a simple melody by the introduction of florid passages, a style of both music and execution designed to task the abilities of the artist.

Braxy, a disease in sheep. This term is frequently applied to totally different disorders, but the true braxy is undoubtedly an intestinal affection, attended with diarrhœa and retention of the urine.

Bray, a small English parish, near Maidenhead, Berkshire, of which Simon Aleyn was vicar from 1540 to 1588, during the reigns of Henry VIII., Edward VI., Mary, and Elizabeth. He kept his vicarage by changing his faith according to that of the State for the time being, becoming a Protestant with Henry, Catholic again in the reign of Mary, and Protestant again on the accession of Elizabeth. His principle was to live and die Vicar of Bray, and to it he adhered.

Bray, Anna Eliza, an English woman of letters, born in London, Dec. 25, 1790. Her maiden name was Kempe; was married to Charles A. Stothard, son of the famous artist, and, after his death, became the wife of the Rev. Edward A. Bray, Vicar of Tavistock. She died in London, Jan. 21, 1883.

Brazil, now called officially the UNITED STATES OF BRAZIL, a vast republic in South America, occupying a space nearly equal to one-half of that entire continent. It is of extremely irregular outline and varying dimensions; its greatest diameter being, E. to W., or from Cape Augustin to the Yavari or Jabary river, which separates it from Peru, 2,630 miles; and, N. to S., from Cape Orange E. of Oyapok bay, to the S. extremity of Lake Mirim, 2,580 miles; area 3,209,878 square miles. It is bounded S. E., E., and N. E. by the Atlantic Ocean; N. by French, Dutch, and English Guiana, and Venezuela; W. and S. W. by Colombia, Peru, Bolivia, Paraguay, and the Argentine provinces of Missiones, and by the republic of Uruguay. Its entire coast-line, from the extreme S. point already mentioned, to the head of the Bay of Oyapok is

upward of 3,700 miles. Throughout this vast extent of coast there are few great indentations, though in some parts smaller harbors and inlets are pretty numerous, many of the former excellent and generally surrounded by flats.

With the exception of the Rio Francisco and the Parana, all the large rivers of Brazil empty themselves on its N. shores, and nearly all run parallel courses from S. to N., traversing the vast plains which occupy the center and N. W. portions of the country, and presenting means of internal communication, unequaled in any other part of the globe.

Brazil is divided, politically, into 21 States (formerly provinces) of which there are at least nine each exceeding Great Britain in superficial extent. It is, however, difficult to obtain the area of the States, and of the whole country, the existing data being very unsatisfactory and conflicting. The following table gives the areas of the States and the population in 1900, as revised by the Brazilian Minister to the United States:

States.	Area in sq. Miles.	Pop. 1900.
Alagoas	22,583	600,440
Amazonas	732,460	300,915
Bahia	164,049	2,901,365
Ceara	40,253	805,687
Espirito Santo	17,312	250,997
Goyaz	288,546	227,572
Maranhao	177,566	530,854
Matto Grosso	532,708	250,827
Minas Geræs	222,160	4,000,099
Para	443,553	850,455
Parahyba	28,854	457,232
Parana	85,453	349,491
Pernambuco	49,625	230,224
Piauhy	116,218	267,609
Rio de Janeiro (city	538	752,651
Rio de Janeiro	26,634	1,250,884
Rio Grande do Norte	22,195	268,273
Rio Grande do Sul	91,335	1,197,455
Sao Paulo	112,330	2,000,753
Santa Catharina	27,436	383,769
Sergipe	7,370	310,926
Total	3,209,278	18,386,815

In addition to the population given above, it is estimated that there are perhaps 600,000 uncivilized Indians. The most important towns in Brazil are the capital, Rio de Janeiro, Bahia, Pernambuco, Para or Belem, San Paulo, Parahyba, Ceara, and Porto Algre.

In remarkable contrast to the countries on the W. side of the South American continent, Brazil has no mountains of very great elevation. The higher mountains of Brazil, most of them occurring at greater and lesser distances from the E. coast, extend generally in a direction more or less from S. to N., though numerous inferior ranges traverse the country in various other directions. The river system of Brazil is unequaled, perhaps, in any other part of the world for the number and magnitude of the streams of which it is composed, the surface of the whole N. W. portion being interlaced with rivers of every length and volume; presenting the complex appearance of vessels in the human body, to which the Amazon and its larger tributaries may be said to stand in the relation of main arteries. By far the greater portion of these numberless streams have more or less of a N. direction, and finally find their way, either directly or through their principals, to the Amazon. The largest river of Brazil, and the largest, it is believed, in the world, though not the longest, is the Amazon, which enters the country from the W., about lat. 4° 30′ S.; lon. 70° W., and after a N. E. course from the point named of about 800 miles, flows into the Atlantic near the equator. In order of magnitude follow the Rio Negro and Medeira, both tributaries of the Amazon; the former flowing from the N. W., the latter from the S. W. The other large rivers in this portion of the country are the Branco, a tributary of the Rio Negro; the Tapajos and Xingu, other two large tributaries of the Amazon; the Araguay, Tocantins, Maranhao, and Paranahyba. The next in size is the Rio Francisco, which, after flowing N. for about 800 miles, suddenly turns due E., and subsequently S. E., falling into the sea about lat. 11° S. Passing along the coast, S. from the embouchure of the Francisco, the following considerable rivers occur — the Vazabarris, Itapicuru, Paraguassu, Belmonte or Jequitinhonha, in the State of Bahia; Doce, State of Espirito-Santo; and the Paraiba-do-Sul, the S. boundary of the same State. In this enumeration of

the rivers having their embouchures on the E. coast of Brazil, we have omitted an immense number of smaller streams, perhaps not many below a hundred. In the interior of the S. portion of the country occur the large rivers Uruguay, Yguazu, Paranapanema, Tieta, Para, Paraguay, and Parana, with numerous smaller streams — smaller in comparison to these, but still large rivers — winding in all directions through every province. Although unrivalled in the number and magnitude of its rivers, Brazil has comparatively few lakes of any great extent. The largest is the Lagoa dos Patos, a lagoon in the State of Rio Grande do Sul, the extreme S. of the Brazilian States; it is about 150 miles in length, and 35 miles in breadth at the widest part, and is separated from the sea by a narrow strip of land only; it discharges its water into the ocean by a channel called the Rio Grande. Farther N. several smaller lakes occur, the largest of which may be from 20 to 30 miles in length. There are hardly any others worth mentioning.

The mineral wealth of Brazil is considerable, and includes gold, silver, and iron, diamonds, topazes, and other precious stones. Among the earliest discovered and first wrought gold mines were those of Jaragua, but they have long ceased to be regularly worked, the precious metal being found more easily and in greater abundance mingled with the sands and alluvial deposits of rivers. The process of separation, the gold being in small particles, is effected by repeated washings, which are continued till nothing but the pure metal remains at the bottom of the vessel. The entire quantity of gold produced has now greatly fallen off, being hardly a fourth of what it formerly was, owing chiefly to the auriferous sand having been exhausted. Large quantities of diamonds have been obtained in Brazil. The district from which most stones have been derived is Diamantina in Minas Geraes, adjoining the Serra do Espinhaco. The diamonds have been hitherto found in the beds of rivers only, and are washed from the sand and stones with which they are mingled much in the same way as the gold. The largest known Brazilian diamond was found in the Rio Bogagens, and weighed 254½ carats. The negro who found a diamond weighing 17 carats, used to obtain his liberty, a variety of proportionate rewards being appointed for those of lesser value. About 20,000 negroes were at one time employed in the diamond mines. The government received one-fifth of the total value of all the gold and diamonds found in the country. Notwithstanding the sounding names of these two items of the mineral wealth of Brazil, neither of them has been nearly so profitable, nor so beneficial to the general interests of the country as the homeliest of its agricultural productions. In the short space of a year and a half the exports of sugar and coffee amounted to more than the value of diamonds found throughout a period of 80 years within the limits of Brazil.

As almost the whole of Brazil lies S. of the equator, and in a hemisphere where there is a greater proportion of sea than land, its climate is generally more cool and moist than that of countries in corresponding latitudes in the Northern Hemisphere. This is particularly applicable to the flat portions of the country, where impenetrable forests occupy the alluvial plains, and, by preventing the sun's rays reaching the earth, cut off one of the principal sources of heat — radiation. In the S. parts of Brazil, in consequence of the gradual narrowing of the continent, the climate is of an insular character — cool summers and mild winters. The quantity of rain that falls in Brazil differs widely in the amount in different localities. The N. States generally are subject to heavy rains and violent storms; but the S. regions rejoice in a settled, mild, and salubrious climate. The rainy season commences in October, and usually lasts till March, setting in with heavy thunder-storms. At Rio, where the climate has been much modified by the clearing away of the forests in the neighborhood, the mean temperature of the year is 72°; and the rains have been so diminished as to have seriously reduced the supply of water to the city. Generally the climate of Brazil is delightful, diffusing and maintaining a perpetual summer throughout this favored land. In the N. parts the air in the lower tracts is somewhat sultry and oppressive; but vegetation is vigorous and profuse, the ground being

covered with flowers, and the trees with a foliage that is ever green; while the nights are deliciously cool. Near the coast the temperature is modified by the trade wind, which, after traversing the Atlantic, fans the shores of Brazil, imparting a refreshing coolness to the atmosphere.

The soil of Brazil, so far as its capabilities have been tested, is highly fertile. Altogether but a comparatively small portion has yet been subjected to this test, probably not more than a hundredth part of the surface being under cultivation, and this portion is almost entirely limited to the coast, and to the N. E. part of the country, which seems peculiarly well adapted for the cultivation of maize, sugar, and coffee. The pastures, moreover, are of vast extent, and, as they afford food for immense numbers of horned cattle, they form one of the principal sources of the wealth of the country. Being almost wholly within the limit of the palm region, the vegetation of Brazil is characterized generally by the peculiar physiognomy which tha' beautiful family of vegetables impresses on tropical countries. Of these nearly 200 species are known as native to the country. The chief food-supplying plants are sugar, coffee, cacao, rice, maize, wheat, manioc (cassava), beans, bananas, yams, lemons, oranges, figs, etc.— the two first, sugar and coffee, being the staple products of the republic. The manioc is a native of Brazil, and its farina is almost the only kind of meal used in that country. An acre of manioc is said to yield as much nutriment as six acres of wheat. The Indians find in this beautiful and useful plant a compensation for the rice and other cereals of the Old World. But it is in the boundless forests of Brazil that the vigor of the vegetative power is exhibited in its most imposing form. Rubber, drugs, dyes, fibers, vegetable ivory, and cabinet woods are all products of the Brazilian forests. Among the trees are the andaacu, or Purga da Paulistas, the seeds of which yield a purgative oil; the cacao or chocolate tree; the Brazil-wood tree, used, under the name of Pernambuco wood, for dyeing silk of a crimson color; the rosewood tree, the fustic, mahogany, and a variety of others well adapted for various purposes. The beauty, variety, and abundance of the flowers of this extraordinary country are no less remarkable than any other of its vegetable productions.

The principal domestic animals of Brazil are horned cattle and horses; the numbers of the former are prodigious, covering the boundless plains of the interior. The greatest part of them live in a wild or semi-wild state. Horses are numerous in the S. provinces; they are of a middling size, from 12 to 14½ hands high, but strong, lively, and swift. Mules are reared in the S. States. Sheep are in little repute, the meat being ill flavored and the wool of indifferent quality. Goats and hogs are abundant. The woods of Brazil swarm with wild animals, including the puma, jaguar, sloth, armadillo, etc. Wild hogs are also common, as well as an amphibious animal called the water hog or capybara, resembling a hog in form, but of the size of a heifer. Monkeys are likewise numerous; and vampire bats are in some localities so destructive as to prevent the rearing of cattle. Among the feathered tribes are, the smallest, the humming-bird, and one of the largest, the rhea or ostrich. There are also parrots in great variety, and a powerful eagle, the harpy. Water-fowl, especially geese and ducks, abound in certain seasons on the lakes and lagoons at the S. extremity of Brazil. The reptiles consist of the boa constrictor and other species of serpents, some of them venomous, especially the jarraraca, which is much dreaded by the natives. When full grown it is usually about six feet long, and is nearly allied to the rattlesnake genus. It prevails over all the S. States. Its bite is attended with great suffering, and with the most serious consequences, even where death is averted. In the marshy countries of the S. the boa or python is said to attain a length of over 20 feet. Other important reptiles are several species of alligator and different kinds of turtle, which, on the Amazon in particular, supply abundance of food. The insects of Brazil are, many of them, remarkable for the beauty of their colors and their size, especially the butterflies and moths, of which as many as 14,000 species are known. In

some localities insects are so numerous in the woods that their noise is heard in a ship at anchor some distance from the shore. The white ants are especially numerous and destructive. The scorpions of Brazil attain a length of six inches. Most of the bees of the country are stingless, there being no fewer than 30 species of that description. The shores and rivers abound with fish. Among the most valuable of those caught on the former is the garopa, which attains a length of from 12 to 20 feet, and is well flavored; they are most numerous on the coast of Bahia, where great quantities are annually taken and exported. The numbers of fish caught in the Amazon and other rivers of the country are very great, constituting a principal part of the subsistence of the inhabitants.

In every town schools for teaching the first rudiments are now to be found, to which the children of all citizens are admitted free. There are no universities, but there are government colleges of law, medicine, etc. In all large towns there are professorships of Latin, Greek, English, French, philosophy, rhetoric, geometry, chemistry, botany, etc.; and printing presses are now common throughout Brazil.

The varied population of Brazil consists of people of pure Portuguese blood, who form a comparatively small minority of the whole; of full-blooded negroes, who form the largest unmixed element in the population; of aborigines or native Indians; and of people of mixed race, the most numerous of all; besides a certain number of German and other European immigrants. The Portuguese portion of the population have made Portuguese the national language of the country. The native Indians are copper-colored, robust, well-made, but of short stature. They generally go naked, paint their skins, and are fond of ornamenting their heads with feathers. A number are nominally Christians. They belong to various tribes of which the chief are the Tupi, Guarani, and the Onagua. In recent years there has been a considerable immigration of European colonists, the majority Italians. Italy enjoys a "favored nation" tariff with Brazil. In Dec., 1906, it was reported that the German govt. offered exemption from military service to German settlers in Rio Grande. The annual imports of German iron, steel and hardware were estimated at $20,000,000. Exports comprise coffee (the most valuable product), sugar, rubber, cotton, hides, drugs, gums, and diamonds. There are nearly 14,000 m. of railroad, over 29,300 m. of telegraph line and extending telephonic systems. A feature of the telegraphic system is the cable laid on the bed of the Amazon river and giving Para, Manãos and other towns on its banks telegraphic connection with the rest of the world.

There is now no established religion in Brazil, but the Roman Catholic is the one most exclusively prevalent. Until recently the government was monarchial, hereditary, constitutional, and representative. Since the overthrow of the empire in 1889 republican institutions have been established, each of the old provinces being now a State, whose internal affairs are administered without interference from the central federal government. At the head of affairs is a president, by whom, and the national congress, legislation is carried on. The congress consists of a chamber of deputies and a senate, the former elected by direct vote as representative of the different States; while the senators are chosen by the State legislatures, three for each State for nine years. The executive authority is vested in the president. The public debt is now about $620,000,000.

The annual revenue of the republic has latterly amounted to about $50,000,000, and has been generally exceeded by the expenditure. The army numbers over 28,000 men, including officers; there are also about 20,000 gendarmes. Service is obligatory, the period being three years in the active army and three in the reserve. The effective navy is of moderate strength, but constitutes a considerable burden on the finances of the country.

Brazil was discovered Jan. 26, 1500, by Vincente Yanez Pincon, one of the companions of Columbus, and was subsequently taken possession of by Pedro Alvares de Cabral. Emanuel, King of Portugal, had equipped a squadron for a voyage to the East Indies, under the

command of Cabral. The admiral, quitting Lisbon, March 9, 1500, fell in accidentally, April 24, with the continent of South America, which he at first supposed to be a large island on the coast of Africa. In this conjecture he was soon undeceived, when the natives came in sight. Having discovered a good harbor, he anchored his vessels, and called the bay Puerto Seguro. On the next day he landed with a body of troops, and having erected the cross, took possession of the country in the name of his sovereign, and called it Terro da Vera Cruz; but the name was afterward altered by King Emanuel to that of Brazil, from the red wood which the country produces.

The value of Brazil to Portugal continued steadily to increase after the discovery of the gold mines in 1698, and the discovery of the diamond mines in 1728. Up to the year 1810 Brazil had sent to Portugal 14,280 hundredweights of gold and 2,100 pounds of diamonds, which foreign countries, and especially Great Britain, at last succeeded in purchasing at the Lisbon market. Rio Janeiro now became the mart for the proceeds of the Brazilian mines and native productions. But the administration was anything but adapted to promote the prosperity of the country. The attention of the government was turned almost exclusively to the gold washings and to the working of the diamond mines; and the policy of the administration consisted in the exaction of taxes and duties, which were collected from the fortified ports, to which trade was solely confined. Foreigners were excluded or jealously watched, and trade was paralyzed by numerous restrictions. In the interior, the lands situated on the great rivers, after being surveyed, were frequently presented, after the year 1640, by the kings of the house of Braganza, to the younger sons of the Portuguese nobility, whom the system of entails excluded from the prospect of inheritance. These grantees enlisted adventurers, purchased negro slaves by thousands, and subjected the original inhabitants or drove them from their districts, and ruled their dominions with almost unlimited sway. The missions of the Jesuits also received similar donations from the kings.

On the invasion of Portugal in 1808 by the French, the sovereign of that kingdom, John VI., sailed for Brazil, accompanied by his court and a large body of emigrants. Soon after arriving there he began to improve the condition of the country by placing the administration on a better footing, and throwing open its ports to all nations. On the fall of Bonaparte the king raised Brazil to the rank of a kingdom, and assumed the title of King of Portugal, Algarve, and Brazil. The revolution which took place in Portugal in 1820, compelled the king to return to that country; he next year sailed for Lisbon, leaving Pedro, his eldest son and successor, as lieutenant and regent. But as the Portuguese Cortes was not willing to grant the entire equality of civil and political relations demanded by the Brazilians, and had expressly declared that Brazil was to be divided into governments, and ruled by the ministry of State at Lisbon, and the prince-regent was to be recalled to Portugal — such violent convulsions were excited in Rio Janeiro and various parts of Brazil, December, 1821, that it was explicitly declared to the prince-regent that his departure would be the signal for establishing an independent republic. The prince, therefore, resolved to remain in Brazil, and gave a public explanation of his reasons, Jan. 9, 1822, to his father, to the Cortes in Portugal, and to the people of Brazil. The Portuguese troops were removed from Brazil. The prince-regent assumed, May 13, 1822, the title of "perpetual defender of Brazil," and in June convened a National Assembly, composed of 100 deputies, to frame a separate constitution for the country. The National Assembly of Brazil declared the separation of that country from Portugal, Aug. 1, 1822, and Oct. 12, appointed Dom Pedro the constitutional Emperor of Brazil. The new emperor retained, at the same time, the title of "perpetual defender of Brazil."

The king, after some slight and ineffectual attempts to re-establish the former relations between Portugal and Brazil, acknowledged the independence of the latter country in 1825. Some years afterward a series of tumultuary proceedings ended in the abdication of Dom Pedro, who left Brazil on April

7, 1831, leaving his son, who was under age, as his successor. The rights of the latter were recognized and protected, and a regency of three persons appointed by the Chamber of Deputies to conduct the government during his minority. In 1840 the young emperor was declared of age, being then in his 15th year, and was crowned on July 18, 1841. The new government had considerable difficulty in crushing the republican and revolutionary party, which kept up a series of struggles in several provinces for some years. In 1845 the insurgents had all laid down their arms, but in 1848 a new rising took place, which was put down not without difficulty in the following year. In 1851 a war broke out with Rosas, dictator of Buenos Ayres, in which Brazil was joined by Paraguay, Uruguay, Corrientes, and Entre Rios, and which ended in favor of the allies. From this war Brazil received a certain impulse. The trade now increased, the finances of the country improved, and the government began to further the development of the country by constructing roads, encouraging immigration, and fostering the education of the people. In 1853 the Bank of Brazil was founded, and the construction of railways began. In 1859 a minister for agriculture, commerce, and public work was appointed, and a large government loan for the construction of railways was authorized. In 1863, in consequence of the arrest of three English naval officers, a misunderstanding arose with England, which led to the termination of diplomatic relations for a time between the two countries. Meanwhile (November, 1864) hostilities had been commenced by the Paraguayans under President Lopez against Brazil, in consequence of the interference of the latter in the affairs of Uruguay; and in May, 1865, an alliance for the purpose of carrying on war against Paraguay was concluded between Brazil, the Argentine Confederation, and Uruguay. This war, the brunt of which had to be borne by Brazil, lasted till 1870, the Paraguayans having maintained a heroic resistance, and having only given up the contest on the death of their leader, Lopez, in battle against the Brazilians (March 1, 1870). This struggle was attended with an immense expenditure of men and money to Brazil, but it established her reputation as a great power and secured the freedom of the navigation of the La Plata river system. For some years after this a movement toward greater freedom went on in Brazil. In 1888 it took the form of a total abolition of slavery without compensation, and in 1889 it received further development in a revolution which overthrew the monarchy. On Nov. 16 a provisional government was formed, the emperor with his family sailed for Europe, and a new constitution proclaimed the Republic of the Federated United States of Brazil. In 1893-94 an insurrection, confined chiefly to the navy, was suppressed after some fighting by Pres. Peixoto. In 1906 the Third International Congress of American Republics assembled at Rio de Janeiro, the object being to improve in every way possible the relations between North, Central, and South American republics. Mr. Elihu Root, Secretary of State, headed the delegation from the U. S., and discussions of the Monroe and Drago doctrines were features of the Congress.

Brazilian Grass, an incorrect popular name applied to a substance used in the manufacture of a very cheap kind of hats, known as Brazilian grass hats.

Brazil Nuts, the seeds of a Brazilian tree. The nuts or seeds are largely exported from Para, whence they are sometimes called Para nuts.

Brazil Tea, a tree — the mate, the leaves of which are used in South America as a substitute for Chinese or India tea.

Brazil Wood, a kind of wood used for dyeing, and extensively imported from the West Indies, Brazil, and other tropical countries.

Brazing, the act of soldering together the surfaces of iron, copper, brass, etc., with an alloy composed of brass and zinc, sometimes with the addition of a little tin or silver.

Brazos, a large river of the United States, in Texas, rising in the N. W. part of the State, and flowing into the Gulf of Mexico, after a course of 900 miles, 40 miles W. S. W. of Galveston. During the rainy season, from February to May inclusive, it is navi-

gable by steamboats for about 300 miles.

Breach, the aperture or passage made in the wall of any fortified place by the ordnance of the besiegers for the purpose of entering the fortress.

Breach, in law, any violation of a law, or the non-performance of a duty imposed by law.

Bread. In the earliest antiquity we find the flour or meal of grain used as food. Bread, as is well known, is made from the flour or meal of the cereals, Indian corn, millet, and rice being principally used for the purpose in the more S. countries, rye, barley, and oats in the more N., and wheat in the intermediate and temperate regions; but other vegetable products, such as beans, peas, lentils, turnips, carrots, potatoes, and even the bark of trees, are also sometimes employed either alone or mixed with the flour of the cereals

Breadfruit. The breadfruit is a large, globular fruit of a pale-green

BREADFRUIT.

color, about the size of a child's head, marked on the surface with irregular six-sided depressions, and containing a white and somewhat fibrous pulp, which when ripe becomes juicy and yellow. The tree that produces it grows wild in Tahiti and other islands of the South Seas. It is about 40 feet high, with large and spreading branches, and has large bright green leaves, deeply divided into seven or nine spear-shaped lobes. The eatable part of this fruit lies between the skin and the core, and it is as white as snow and somewhat of the consistence of new bread. When gathered it is generally used immediately; if it be kept more than 24 hours, it becomes hard and choky. The inhabitants of the South Sea Islands prepare it as food by dividing the fruit into three or four parts and roasting it in hot embers. Its taste is insipid, with a slight tartness.

As the climate of the South Sea Islands is not very different from that of the West Indies, it was thought desirable that some of the trees should be transferred in a growing state to the British islands there; and it was for this purpose that the "Bounty" sailed in 1787 to the South Seas, under the command of the well-known Bligh. This expedition being unsuccessful, a second, also under Bligh, was fitted out in 1791. He arrived in safety at Tahiti, and after an absence from England of about 18 months, landed in Jamaica with 352 breadfruit trees in a living state, having left many others at different places in his passage thither. From Jamaica these trees were transferred to other islands; but the negroes, having a general and long-established predilection for the plantain, the breadfruit is not much relished by them. Where, however, it has not been generally introduced as an article of food, it is used as a delicacy; and whether employed as bread or in the form of pudding, it is considered highly palatable by the white inhabitants.

Breakwater, a pier, wall, mole, sunken hulk, or anything similar, placed at the entrance of a harbor, at the exposed part of an anchorage, or in any such situation, with the view of deadening the force of the waves which roll in from the ocean. There are several notable breakwaters in this country — one of the longest and most notable being that in Lake Michigan, protecting the harbor of the city of Chicago. It is peculiar in its construction, being built perpendicularly and encased with wooden beams. The Delaware breakwater, in Delaware Bay, is built with sloping sides, being much broader at its base than on top.

Bream, the carp bream. It is of a yellowish white color, which changes, through age, to a yellowish brown. The sides are golden, the cheeks and gill covers silver white, the fins, light colored, tinged, the ventral one with red and others with brown. It is found in deep waters and lakes. It is sought after by anglers, who, however, consider the flesh insipid.

Breastwork, in fortification, a hastily constructed parapet made of material at hand, such as earth, logs, rails, timber, and designed to protect troops from the fire of an enemy. In architecture, the parapet of a building. In shipbuilding, a railing or balustrade standing athwartships across a deck, as on the forward end of the quarter deck or roundhouse. The beam supporting it is a breastbeam.

Breckinridge, Clifton R., an American legislator and diplomatist, born in Lexington, Ky., Nov. 25, 1846; received a public school education and served in the Confederate army and navy. After the war he attended Washington College (now Washington and Lee University) for three years, and engaged in mercantile business in Pine Bluff, Ark. He was elected to Congress in 1882 as Representative-at-large. On July 19, 1894, he was appointed United States Minister to Russia, serving until 1897.

Breckinridge, or **Breckenridge, John,** an American statesman, born in 1760. In 1795 he was made Attorney-General of the new State of Kentucky, and he served in its Legislature from 1797 to 1800. He entered the United States Senate, in 1801, becoming four years later Attorney-General in Jefferson's cabinet, in which office he died in 1806.

Breckinridge, John Cabell, Vice-President of the United States, born near Lexington, Ky., Jan. 21, 1821; practiced law in Lexington until 1847, when he was chosen major of a volunteer regiment for the Mexican War. He sat in Congress in 1851–1855, and in 1856 was elected Vice-President, with James Buchanan as President. In 1860 he was the pro-slavery candidate for the presidency, but was defeated by Abraham Lincoln. A United States Senator from March to December, 1861, he then entered the Confederate army, was appointed a Major-General, in 1862, and held some important commands during the Civil War. He was Secretary of War in Jefferson Davis' cabinet at the close of the struggle, and escaped to Europe, whence he returned in 1868. He died in Lexington, May 17, 1875.

Breckinridge, Joseph Cabell, an American military officer, born in Baltimore, Md., Jan. 14, 1842; a cousin of Gen. John C. Breckenridge of the Confederate army. He practiced law in Danville, Ky., till the beginning of the Civil War, when he joined the Union army. He was made a First Lieutenant in the Regular army Aug. 1, 1863, a Captain in 1874, Brigadier and Inspector-General in 1889, and Major-General of Volunteers, May 4, 1898. He served in the Santiago campaign and had a horse shot under him.

Breckinridge, Robert Jefferson, a Presbyterian clergyman and theological writer, born at Cabell's Dale, Ky., March 8, 1800. He was originally a lawyer. He was President of Jefferson College in 1845–1847; from 1847 he was pastor at Lexington, Ky. He was a leader in the division of the Presbyterian Church in 1837 into Old and New Schools. He died in Danville, Ky., Dec. 27, 1871.

Breda, a town in Holland, Province of North Brabant, at the confluence of the Merk and the Aa. Breda was once a strong fortress and of great military importance as a strategical position. From the 16th to the end of the 18th century Breda has an interesting military history of sieges, assaults and captures, with which the names of the most famous generals of their time, the Duke of Parma, Maurice of Orange, the Marquis Spinola, Dumouriez, and Pichegru, etc., are connected. It was the residence for a time of the exiled Charles II. of England, and it was in the Declaration of Breda that he promised liberty of conscience, a general amnesty, etc., on his restoration.

Breech, in firearms and ordnance, the rear portion of a gun; the portion behind the chamber; in shipbuilding, the outer angle of a knee timber; the inner angle is the throat.

Breeches Bible, a name given to a Bible printed in 1579; and so called from the reading of Gen. iii: 7: "They sowed figge tree leaves together and made themselves breeches."

Breech Loader, a firearm in which the charge is introduced at the rear instead of at the muzzle.

Breech Pin, in firearms, a plug screwed into the rear end of a barrel, forming the bottom of the charge chamber. Otherwise called a breech plug or breech screw.

Breech Screw, in firearms, the plug which closes the rear end of the bore of a firearm barrel. The parts are known as the plug, the face, the tenon, the tang, and the tangscrew hole.

Breech Sight, the hinder sight of a gun. In conjunction with the front sight, it serves to aim the gun at an object.

Breeding, the art of improving races or breeds of domestic animals, or modifying them in certain directions, by continuous attention to their pairing, in conjunction with a similar attention to their feeding and general treatment.

No sooner had the Revolutionary War closed than importations of improved stock began. This was kept up till the War of 1812 temporarily checked it.

Mr. Rommel says that the year 1817 will always be memorable in American cattle history. In that year, following the short-horn importations of 1812, came the beginning of the Devon and Hereford importations, together with still another arrival of short-horns. Growth was slow up to 1827, when there came renewed activity, especially in short-horns. Companies were formed and the improvement of cattle was marked. In point of numbers the shorthorn breed rapidly assumed the foremost position, and till about the year 1880 was the only beef of prominence.

The expansion of the cattle business was rapid. Up to the opening of the Union Pacific railroad it was mainly carried on in the part of the country E. of the Missouri river. Then came the discovery of the great opportunities offered by the far Western plains for grazing. The growth in the cattle raising industry was then abnormal. "In the early eighties," says Mr. Rommel, "pure-bred cattle by the thousands were brought from England to supplement the American herds in breeding bulls for the range, and the nearest that the Hereford and Angus breeds ever came to having a boom in this country was at this time. After the collapse, which was bound to follow, the cattle business is now on what is thought to be a substantial and healthy foundation.

Breed's Hill, a slight elevation in the Charlestown district of Boston, Mass., about 700 yards from Bunker Hill. Although the famous engagement of June 17, 1775, is known as the Battle of Bunker Hill, most of the fighting was done on Breed's Hill. Here was located the American redoubt, against which the British made their three historical charges, and here Warren fell. The Bunker Hill monument stands on Breed's Hill.

Breitenfeld, a village of Saxony, 5 miles N. of Leipsic, remarkable for three battles fought in its neighborhood. In the first, fought on Sept. 17 (old style, 7th), 1631, Gustavus Adolphus inflicted a decisive defeat upon the imperialists under Tilly, who, as well as his generals, Pappenheim and Furstenberg, was wounded. The second battle was also a victory of the Swedes under Torstenson over the imperial forces under the Archduke Leopold and Piccolomini, Nov. 2 (old style, Oct. 23), 1642. The third battle was one act of the great "Battle of the Nations" at Leipsic, Oct. 16, 1813.

Bremen, a free city of Germany, an independent member of the Empire, one of the three Hanse towns, on the Weser, about 50 miles from its mouth, in its own small territory of 99 square miles, besides which it possesses the port of Bremerhaven, at the mouth of the river. The city is partly on the right, partly on the left, bank of the Weser, the larger portion being on the former. Its situation renders Bremen the emporium for Hanover, Brunswick, Hesse, and other countries traversed by the Weser, and next to Hamburg it is the principal seat of the export and import and emigration trade of Germany. Only small vessels can pass up to the city itself; the great

bulk of the shipping trade centers in Bremerhaven and in Geestemunde. Bremerhaven is now a place of over 20,000 inhabitants, has docks capable of receiving the largest vessels, and is connected by railway with Bremen, where the chief merchants and brokers have their offices. The chief imports are tobacco, raw cotton and cotton goods, wool and woolen goods, rice, coffee, grain, petroleum, etc., which are chiefly re-exported to other parts of Germany and the Continent. The yearly imports, 759,763,471 marks; the exports, 714,736,065 marks. Population of city (1900) 163,418.

Bremer, Fredrika, a Swedish novelist, was born at Tuorla, Finland, Aug. 17, 1801; was brought up at Arsta, about 20 miles from Stockholm. She varied her literary labor by long journeys in Italy, England, the United States, Greece, Palestine. She died in Arsta, Dec. 31, 1865.

Brennus, the name of two individuals known in history. (1) The first was the hero of an early Roman legend which relates to the migration of the Gauls into Italy and their march to Clusium and Rome. In the account given by Livy, he figures as the Regulus Gallorum, or chieftain of the Gauls. When he arrived at Clusium, the inhabitants called on the Romans for aid. He engaged with and defeated the Romans on the banks of the Allia, the name of which river they ever after held in detestation. The whole city was afterward plundered and burned, and the capitol would have been taken but for the bravery of Manlius. At last, induced by famine and pestilence, the Romans agreed that the Gauls should receive 1,000 pounds of gold, on the condition that they would quit Rome and its territory altogether; the barbarian brought false weights, but his fraud was detected. The tribune Sulpicius exclaimed against the injustice of Brennus, who immediately laid his sworn and belt in the scale, and said, "Woe to the vanquished." The dictator, Camillus, arrived with his forces at this critical time, annulled the capitulation, and ordered him to prepare for battle. The Gauls were defeated; there was a total slaughter, and not a man survived to carry home the news of the defeat. (2) A king of the Gauls, who, B. C. 279, made an irruption into Macedonia with a force of 150,000 men and 10,000 horse. Proceeding into Greece, he attempted to plunder the temple at Delphi. He engaged in many battles, lost many thousand men, and himself received many wounds. In despair and mortification he killed himself.

Brent, Charles Henry, an American clergyman; born in Newcastle, Ontario, Canada, in 1862; was graduated at the University of Trinity College in 1884; ordained deacon in the Protestant Episcopal Church in 1886, priest in 1887, and consecrated the first bishop of the Protestant Episcopal Church for the Philippine Islands in December, 1901.

Brent Goose, a wild goose, smaller than the common barnacle goose and of much darker plumage, remarkable for length of wing and extent of migratory power, being a winter bird of passage in the United States, Canada, etc. It breeds in high northern latitudes; it feeds on drifting seaweeds and saline plants, and is considered the most delicate for the table of all the goose tribe.

Brescia, a city of Lombardy, North Italy. Brescia is a place of considerable trade and manufacturing industry. Near it are large iron-works, and its firearms are esteemed the best that are made in Italy. It has also silk, linen, and paper factories, tanyards, and oil mills, and is an important mart for raw silk. But it derives its greatest interest from its fine Roman remains, having been at one time the seat of a Roman colony. In 1796 it was taken by the French, and was assigned to Austria by the general treaty signed at Vienna on June 9, 1815. In 1849 it was involved in the commotions of Continental Europe; its streets were barricaded; but the city was eventually captured by the Austrians under General Haynau. It was ceded to Sardinia by the treaty of Zurich in 1859. Pop. (1901) 70,618.

Breslau, a large city of the German empire, and the second in the Prussian dominions, being excelled in population only by the capital, Berlin; is the capital of the province of Silesia. It is situated in a spacious

plain at the confluence of the Ohlau and the Oder, the latter dividing it into two main portions, which, with islands in the river, are connected by a large number of bridges. There are electric and other tramways. The public squares and buildings are handsome. The fortifications which surrounded the old or inner city have been converted into promenades, and the ditch into an ornamental sheet of water. Pop. (1900) 422,738.

Brest, a seaport in the N. W. of France, Department of Finistere. It has one of the best harbors in France, and is the chief station of the French marine, having safe roads capable of containing 500 men-of-war in from 8 to 15 fathoms at low water. The entrance is narrow and rocky, and the coast on both sides is well fortified. The design to make it a naval arsenal originated with Richelieu, and was carried out by Duquesne and Vauban in the reign of Louis XIV., with the result that the town was made almost impregnable. Brest stands on the summit and sides of a projecting ridge, many of the streets being exceedingly steep. Several of the docks have been cut in the solid rock, and a breakwater extends far into the roadstead. Pop. (1901) 81,948.

Bretagne or **Brittany,** one of the Provinces into which France was divided. It now forms the Departments of Finistere, Cotes-du-Nord, Morbihan, and Loire-Inferieure. In ancient times, under the name of Armorica, it was the central seat of the confederated Armorican tribes, who were of Celtic and Kymric origin. Traces of them still remain in the old Kymric dialect of the three most westerly Departments, and in the numerous so-called Druidical monuments. The Breton has generally a tinge of melancholy in his disposition; but often conceals, under a dull and indifferent exterior, lively imagination and strong feelings. The greater number of the people are found to be ignorant and coarse in their manners, and their agriculture is of a very rude character, by no means calculated to develop the natural resources of the country.

The Duchy of Bretagne was incorporated with France in 1532, by Francis I., to whom it had come by marriage, and subsequently shared in the general fortunes of the kingdom, but retained a local parliament until the outbreak of the Revolution. During the Revolution Bretagne, which was intensely loyal, was the arena of sanguinary conflicts, and especially of the movements of the Chouans, who reappeared as recently as 1832. The Bretons are also intensely Roman Catholic, and have made violent resistance in 1903 to the enforcement of the law closing unauthorized religious establishments.

Breton, Jules Adolphe, a French painter, born in Courrieres in 1827; was educated at St. Omer and at Douai, and trained as a painter under Felix Devigne at Ghent, and in Drolling's atelier at Paris. The subjects of his earlier pictures are taken from the French revolutionary period; but he soon turned to the scenes from peasant life which he has treated in a most poetic and suggestive manner, with an admirable union of style with realism. Breton was also known as a poet and author. Many of his pictures are in this country. He died July 6, 1906.

Brets, Brettys, or **Brits,** Britons, the name given to the Welsh, or ancient Britons, in general; also, to those of Strathclyde, as distinguished from the Scots and Picts.

Bretten, a town of Baden, Germany, the birthplace of Melanchthon, 16 miles E. N. E. of Karlsruhe by rail. The house in which the Reformer was born belongs now to a foundation bearing his name for the support of poor students, established in 1861. A monument was erected in 1867.

Breughel, the name of a celebrated Dutch family of painters, the first of whom adopted this name from a village not far from Breda.

Breve, in music, a note or character of time, equal to two semibreves or whole notes. It was formerly square in shape, but is now oval. It is the longest note in music.

Brewer, David Josiah, an American jurist, born in Smyrna, Asia Minor, June 20, 1837; graduated at Yale College, 1856. He studied law in the office of his uncle, David Dudley Field, and was admitted to the bar in New York city in 1858. Removing to Kansas, he became prominent in his

profession. He was judge of the Supreme Court of Kansas, 1870–1881, and was appointed United States Judge for the 8th Circuit in 1884. He rendered a memorable decision on the Kansas Prohibition Law, affirming the right of liquor manufacturers to compensation, for which he was severely criticised by the Prohibitionists. President Harrison elevated him to the Supreme Court of the United States in 1889. He was made a member of the Venezuelan Commission by President Cleveland in 1896, and its chairman. He died March 28, 1910.

Brewer, Thomas Mayo, an American ornithologist, born in Boston, Mass., Nov. 21, 1814; died in Boston, Mass., Jan. 23, 1880.

Brewer, William Henry, an American scientist, born in Poughkeepsie, N. Y., Sept. 14, 1828. He was graduated at Yale Scientific School in 1852. He made important government surveys, and after 1864 was Professor of Agriculture at Sheffield Scientific School (Yale). He died Nov. 2, 1910.

Brewing, the operation by which beer is made, including under this term all kinds of liquors produced from grain by fermentation. The name beer, may be given to any drink produced by the fermentation of a fluid consisting of water sweetened with honey, sugar, or molasses; but, strictly speaking, the term should only be applied to beverages prepared, either wholly or partially, from malted grain by fermentation.

Brewster, Benjamin Harris, an American lawyer, born in Salem Co., N. J., Oct. 13, 1816. He was graduated at Princeton in 1834, was admitted to the Philadelphia bar in 1838, and in 1881 became Attorney-General of the United States in President Arthur's cabinet, in which capacity he prosecuted the Star Route cases. He died in Philadelphia, Pa., April 4, 1888.

Brewster, Sir David, a Scotch natural philosopher, born in Jedburgh in 1781. His discoveries in reference to the properties of light have led to great improvements in the illumination of lighthouses. He died in Montrose, Scotland, Feb. 2, 1868.

Brewster, William, one of the Massachusetts Pilgrims, born in Scrooby, England, in 1560. He came of a well known family; was educated at the University of Cambridge, and was for a time postmaster at Scrooby. He accepted the Separatist doctrines taught by Hooker and others, and, in consequence, had to flee to Holland, where he supported himself by printing. He was one of the leaders of those who sailed for the New World in the "Mayflower," and, as elder of the church, encouraged his fellow colonists at Plymouth both by his preaching and his example. He died in Plymouth, Mass., April 10, 1644.

Brian (surnamed Boroimhe), King of Ireland, for many years ruled his dominions with vigor and prosperity; but fell in the battle of Clontarf, on Good Friday, 1014.

Briand, Aristide, French statesman; born at Nantes, March 28 1862; became a lawyer and Socialist deputy; Minister of Justice and Public Worship in the Clemenceau Cabinet; acquired high reputation for statesmanship and parliamentary ability by his conduct on the debate on separation of Church and State; became premier in 1909; and handled with firmness the railroad strike of 1910.

Briareus, a famous giant, son of Cœlus and Terra, who had 100 hands and 50 heads, and was called by men Ægeon, and only by the gods Briareus.

Bribery, in the United States, the word applied to an attempt to corruptly influence, by means of offers of reward, the course of legislation, the result of an election, the verdict of a jury, the decision of a magistrate, etc. It is not necessary to constitute an indictable offence that the bribe be accepted. The tender of the bribe is the essence of the crime. If a bribe be offered a witness to swear falsely the crime is not bribery, but is merged into subordination of perjury. The penalty for bribery is fine or imprisonment, or both.

Brice, Calvin Stewart, an American capitalist, born in Denmark, O., Sept. 17, 1845; attended Miami University, and while there enlisted in a university company in 1861. In 1862 he resumed his studies and graduated in 1863. He practiced law in Cincinnati from 1866 to 1880, when he became interested in railroad and various

other financial undertakings. He was presidential elector on the Tilden ticket in 1876 and the Cleveland ticket in 1884, and chairman of the Democratic National Committee in 1888. In 1890 he was elected United States Senator from Ohio, and served on the Appropriations, Pensions, Pacific Railroad, and Public Buildings and Grounds Committees. Shortly before his death, in New York city, Dec. 15, 1898, he formed a syndicate which secured vast railroad and mining concessions in China.

Brick, a kind of artificial stone, made of clay, molded in prismatic form, dried in the sun and baked in a kiln. The word is also applied to the block in its previous condition as a molded plastic mass, and as a dried block in which the water hygrometrically combined with the clay is driven off. When this condition is accepted as a finality, the block so dried is an adobe. Bricks were made at a remote period of antiquity by the Egyptians, the Babylonians, the Assyrians, and some of them, being inscribed with written characters, have been of priceless value in conveying historic facts to the present age.

In the United States every State and Territory, excepting Alaska, now produces some kind of bricks, and the value of the total annual output is about $100,000,000. The present trade classification is common or building, vitrified paving or block, front, enameled, fancy and ornamental, and fire.

Bridge, the short name of a comparatively recent and increasingly popular form of the card game of whist. Its rules and points are too numerous to be given here, and the reader is referred to special works.

Bridge, a structure consisting of an arch or series of arches supporting a roadway above it, designed to unite two banks of a river or the two sides of an open space.

The Brooklyn Suspension bridge, across the East river, between New York and Brooklyn, opened in 1883, is built of steel. It has a central span of 1,595½ feet, and two land spans of 930 feet each; making, with approaches, a total length of 5,989 feet, or about one mile and one furlong. The anchorage at each end is a solid cubical structure of stone, measuring 119 feet one way, by 132 feet the other, rising to a height of 90 feet above high water mark, weighing 60,000 tons each. The towers are 278 feet high. The weight of the whole structure suspended between the towers is nearly 7,000 tons. The stress of suspension is borne by four cables of 5,296 steel wires each, 15¾ inches in diameter. The foundations of the towers were laid by means of caissons and compressed air, at a level of about 80 feet below high water mark. The roadway presents five parallel avenues of an average width of 16 feet each. The two outmost avenues, 19 feet wide, are devoted to vehicles; the central avenue, 15½ feet wide, for foot passengers; and on the two intermediate avenues are laid railways for car traffic.

Cantilever Bridges.— A cantilever is a bracket. It is a structure overhung from a fixed base. The bridge across the river Forth on the North British railway system is one of the largest and most magnificent bridges in the world. The site of the bridge is at Queensferry. At this place, the estuary of the Forth is divided by the Island of Inchgarvie into two channels, whose depth, as much as 200 feet, precluded the construction of intermediate piers. Hence, two large spans of 1,700 feet each were adopted. Between these, the central pier is founded on the island midway across, and is known as Inchgarvie pier. There are two other main piers, shore piers, known respectively as the Fife pier and the Queensferry pier. Of these three piers respectively three double lattice work cantilevers like scalebeams, 1,360 feet, or a quarter of a mile in length, are poised in line, reaching toward each other, and connected at their extremities by ordinary girders 350 feet long, by which the two main spans are completed. The bridge consists of two main spans of 1,700 feet, or nearly one-third of a mile each; two of 675 feet each, being the shore ends of the outer cantilevers; and 15 spans of 168 feet each. The total length of the viaduct, including piers, is 8,296 feet or a little over 1½ miles, of which almost exactly one mile is covered by the great cantilevers. The clear headway under the center of the bridge is 152 feet at

high water, and the highest part of the bridge is 361 feet above the same level.

There are several of these bridges in the United States, the first of any size being the Niagara cantilever, built in 1883. Its total length is 910 feet, and it is 295 feet above the surface of the river, with steel towers 130 feet high. The Hudson river bridge at Poughkeepsie, built in 1889, has a length of 6,767 feet and is built in five spans; the first, third and fifth being true cantilever spans with fixed continuous spans connecting them.

The new East River bridge is also a late example of the suspension bridge. The new Blackwell's Island bridge is an example of the cantilever. There are four channel piers, 85 by 45 feet at the base, and 135 feet above high tide. These piers contain 810,000 cubic feet of granite. The bridge is 2 miles in length, with two channel spans of 846 feet each, and a span across Blackwell's Island of 613 feet. The distance from the floor of the bridge to the top of the girders forming the span is 100 feet, making the top of the structure 235 feet above high tide. Other notable cantilever bridges are those across the Colorado river at Red Rock, Cal., and across the Mississippi river at Memphis, Tenn.

Bridges in the shape of arches are often built in places where a more artistic structure than a truss is desired. The High Bridge and Washington Bridge across the Harlem river in New York city are examples of this style of bridge. The High Bridge was built to carry the Croton Aqueduct across the Harlem river. It consists of 13 granite arches, the highest one being 116 feet above the river. The bridge, crossing the river and valley, is 1,460 feet long. The Washington Bridge is situated a short distance N. of the High Bridge and consists of nine arches, three of granite on the E. side, four of granite on the W. and two central steel spans connecting them. The entire length of the bridge is 2,300 feet, and width, 80 feet; the central spans being each 510 feet long and 135 feet above high water. Another noted bridge built 1906-07 is the suspension span, 230 ft. long, across the Grand Cañon Gorge, 2,627 ft. above the Arkansas River between Florence and Cañon City, Col. The floor is glass set in steel, to allow the view beneath.

One of the best examples of American long-span iron-bridge construction is the bridge across the Kentucky river on the Cincinnati Southern railroad, noteworthy for its economical design and comparatively light weight. The iron work of the bridge is 1,138 feet in length, and it consists of three spans of 375 feet each. It crosses a limestone canon at a height of 280 feet above the bed of the stream. The piers are of stone to a height of 60 feet, to clear the highest recorded floods; and they are about 34 feet thick at the flood level. Above the stonework the piers are of iron.

The iron lattice bridge, so called from having sides constructed with cross bars, like lattice work, is the natural outcome of the tubular bridge for long spans, developing equal strength with considerable economy of material and labor. Lattice girders are now almost universally adopted for iron bridges for long spans.

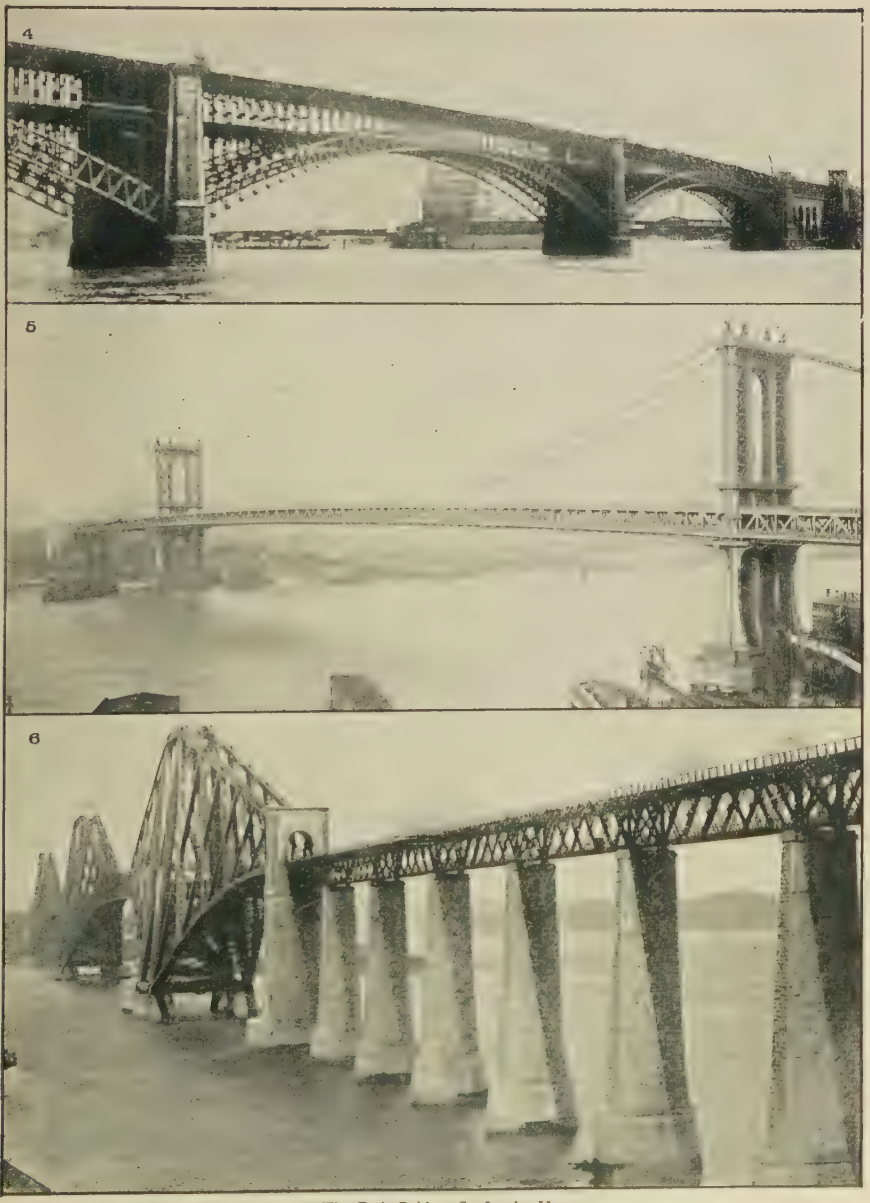
Of the rock formations called natural bridges, the most remarkable is the natural bridge over Cedar Creek, in Virginia, 125 miles W. of Richmond. The mass of siliceous limestone through which the little river passes is presumably all that remains of a once extensive stratum. The cavern or arch is 200 feet high and 60 feet wide. The solid rock walls are nearly perpendicular, and the crown of the arch is 40 feet thick.

Bridge, Sir Frederick, an English organist and composer, born in Oldbury, Worcestershire, Dec. 5, 1844; was organist of Trinity Church, Windsor, Manchester Cathedral, and, since 1875, full organist of Westminster Abbey.

Bridgeport, Conn., a city and port of entry, at the mouth of the Pequonnock, on an inlet of Long Island Sound, 58 miles N. E. of New York. It has fine buildings, and statues to Elias Howe and P. T. Barnum, prominent citizens. Its main importance is due to its large sewing machine, cartridge, and other factories. A large coasting trade also is carried on. Pop. (1910) 102,054.

Bridgeton, a city, port of entry, summer resort, and capital of Cum-

1—The Tower Bridge, London, England (Copyright Underwood & Underwood)
2—Pont de la Concorde, Paris, France (Copyright Underwood & Underwood)
3—The Queensboro Bridge, New York, N. Y. (Copyright Underwood & Underwood)



4—The Eads Bridge, St. Louis, Mo.
5—The Manhattan Bridge, New York, N. Y. (Copyright Underwood & Underwood)
6—The Forth Bridge, Scotland (Copyright Underwood & Underwood)

berland county, N. J.; on the navigable Cohansey creek and several railroad, 38 miles S. of Philadelphia. It is the trade center of an extensive farming section, has large fruit and vegetable canning interests, and manufactures foundry and rolling-mill products, glass, nails, woolen goods, machinery, and carriages. Pop. (1910) 14,209.

Bridgewater, Francis Egerton, third Duke of, the "Father of Inland Navigation in Great Britain," born in 1736. For the purpose of connecting the cities of Liverpool and Manchester, he completed a navigable canal, with the assistance of the celebrated engineer, Brindley, in 1761. He afterward promoted the Grand Trunk Canal navigation. He became ultimately the possessor of immense wealth, realized from the results of his life's labors. He died in London, March 3, 1803.

Bridgman, Frederic Arthur, an American artist, born in Tuskegee, Ala., Nov. 10, 1847. He studied at the Brooklyn Art School and National Academy of Design, and was a pupil of J. L. Gerome, and at the Ecole des Beaux Arts. He has since 1871 had a studio in Paris. He is noted for figure pieces and Oriental and archæological pictures.

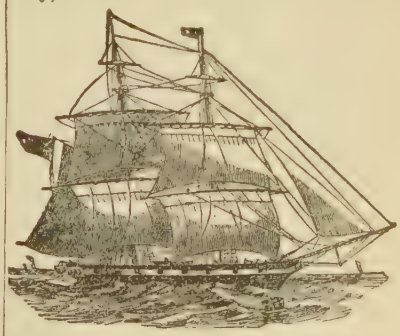
Bridgman, Laura, an American blind mute, born in Hanover, N. H., Dec. 21, 1829. At two years of age both sight and hearing were entirely destroyed by fever. In 1839 Dr. Howe, of Boston, undertook her care and education at the deaf and dumb school. The first attempt was to give her a knowledge of arbitrary signs, by which she could interchange thoughts with others. Then she learned to read embossed letters by touch; next, embossed words were attached to different articles, and she learned to associate each word with its corresponding object. Her touch grew in accuracy as its power increased; she learned to know people almost instantly by the touch alone. In a year or two more she was able to receive lessons in geography, algebra, and history. She learned to write a fair, legible, square hand, and to read with great dexterity, and at last even to think deeply, and to reason with good sense and discrimination. She died May 4, 1889.

Bridle Bit, a bit connected with a bridle. Such bits are seen in Assyrian and Egyptian paintings and sculptures, and are subsequently mentioned by Xenophon.

Brief, from the Latin brevis, short, a brief or short statement or summary, particularly the summary of a client's case which the solicitor draws up for the instruction of counsel.

Briel, or **Brielle,** sometimes **The Brill,** a fortified seaport town of South Holland, on the N. side of the Island of Voorne, near the mouth of the Maas. It contains a government arsenal and military magazines, and possesses a good harbor. The tower of St. Peter's Church serves as a lighthouse. Pop. 5,000, chiefly engaged as pilots and fishermen. Briel may be considered as the nucleus of the Dutch republic, having been taken from the Spaniards by William de la Marck in 1572. This event was the first act of open hostility to Philip II., and paved the way to the complete liberation of the country from a foreign yoke.

Brienne, a town of France, in the Department of Aube; 15 miles N. W. of Bar-sur-Aube. It is remarkable as formerly possessing a military college where the Emperor Napoleon I. received the first rudiments of his education. Here also he attacked Blucher, Jan. 29, 1814, forcing him from the town, which was reduced to ashes, and compelling him, on the following day, to retreat to Trannes.



BRIG.

Brig, (contracted from brigantine), a vessel with two masts, square-rigged on both.

Brigade, a portion of an army, whether infantry, cavalry, or artillery, consisting of two or more regiments, under the command of a brigadier-general. A division consists of two or more brigades under the command of a major-general, and an army corps, the largest division of our army, consists of two or more divisions, and is commanded by a major-general.

Brigade Major, a staff officer attached to the brigade to assist the officer by whom it is commanded.

Brigadier, an abbreviation of brigadier-general. It is in common use in the armies of modern civilized nations, the forces being divided into brigades in charge of brigadiers.

Brigadier-General, a military officer of intermediate rank between a major-general and a colonel.

Brigands, a name originally given to the mercenaries who held Paris during King John's imprisonment (1358), and who made themselves notorious for their ill behavior. It was applied by Froissart to a kind of irregular foot soldiery, and from them was transferred to simple robbers; it is now used especially of such of these as live in bands in secret mountain or forest retreats.

Brigantine, a sailing vessel with two masts, the foremast rigged like a brig's, the main mast rigged like a schooner's.

Briggs, Charles Augustus, an American clergymen and religious writer, born in New York city, Jan. 15, 1841. In 1874 he was appointed Professor of Hebrew in Union Theological Seminary in New York city. He was tried for heresy in 1892, but was aquitted. In 1899 he formally severed his connection with the New York Presbytery and was ordained a clergyman of the Protestant Episcopal Church.

Briggs, Henry, an English mathematician, born near Halifax, Yorkshire, in 1561; died in Oxford, Jan. 26, 1631.

Bright, John, an English statesman, son of Jacob Bright, a Quaker cotton spinner and manufacturer at Rochdale, Lancashire, born in Lancashire, Nov. 16, 1811. When the Anti-Corn Law League was formed in 1839 he was one of its leading members, and, with Mr. Cobden, engaged in an extensive free-trade agitation throughout the kingdom. He was incessant, both at public meetings and in Parliament, in his opposition to the Corn Laws. In 1845 he obtained the appointment of a select committee of the House on the Game Laws, and also one on the subject of cotton cultivation in India. Elected in 1857 for Birmingham, he seconded the motion against the second reading of the Conspiracy Bill which led to the overthrow of Lord Palmerston's government. Though he only once held office in the administrations of his time — as president of the Board of Trade in 1868 and Chancellor of the Duchy of Lancaster — he is credited with having exercised a greater influence upon the conduct of public affairs in England and abroad than, perhaps, any other man. Died March 27, 1889.

Brighton, a borough and chief seaside resort of England; on the English channel; 47 miles S. of London; has a notable sea-wall drive and promenade, a grand "Royal Pavilion," a college for noblemen's sons, and a statue of Queen Victoria. Pop. (1901) 123,478.

Bright's Disease, a granular disease of the cortical portion of the kidneys, so called because it was first diagnostically described by Dr. Richard Bright, an English physician. It is first emphasized by the secretion of urine containing a large amount of albumen, and this symptom is followed by other complications, usually in rapid sequence. The most commonly observed pathological effects are dropsy, uræmia, and, in some cases, petrification of the kidneys and ureters.

Brindaban, or **Brindraban,** a town of the Northwest Provinces, British India; on the right bank of the Jumna, 6 miles N. of Muttra. It is one of the holiest cities of the Hindus, and crowds of pilgrims go there from all parts of India.

Brindisi, (ancient BRUNDUSIUM), a seaport and fortified town, Province of Lecce, Southern Italy, on the Adriatic. In ancient times Brundusium was an important city, and with its excellent port became a considerable naval station of the Romans. Its im-

portance as a seaport declined in the Middle Ages, but has now risen to large importance.

Brindley, James, an English civil engineer, born in 1716. After distinguishing himself by the contrivance of water engines and other mechanical apparatus, he became known to the Duke of Bridgewater, then planning his great scheme of inland navigation for connecting Liverpool and Manchester by means of a canal, and after almost insuperable difficulties, the success of this bold attempt was triumphantly established. In 1766 Brindley commenced the formation of the Grand Trunk Canal, uniting the rivers Trent and Mersey; which undertaking was completed after his death (1772), in 1777.

Brine, water saturated with common salt. It is naturally produced in many places beneath the surface of the earth, and is also made artificially, for preserving meat, a little saltpetre being generally added to the solution.

Brine Shrimp, the only animal, except a species of fly, which lives in the Great Salt Lake of Utah. It is a phyllopod crustacean, with stalked eyes, a delicate, slender body, which is provided with 11 pairs of broad, paddle-like or leaf-like feet. It is about ¼ of an inch long. Similar forms live in brine vats in various parts of the world.

Brinton, Daniel Garrison, an American surgeon, archæologist and ethnologist, born at Thornbury, Pa., May 13, 1837. During the Civil War he was a surgeon in the Union army. From 1867 to 1887 he was editor of the "Medical and Surgical Reporter." He was a high authority on all American archæological topics. He died in Atlantic City, N. J., July 31, 1899.

Briquette, the name, originally French ("small brick"), given to a comparatively new form of fuel, made mostly from waste coal dust, and used, not merely for household purposes, but in various industries. A briquette is simply an admixture of coal dust with pitch, molded under pressure and heat, the pitch or some similar substance being introduced to form the cementing material.

Brisbane, the capital, a seaport and chief seat of trade of Queensland, Australia, situated about 500 miles N. of Sydney, in Moreton District. It stands about 25 miles from the mouth of a river of its own name, which falls into Moreton Bay, and it is divided into the four divisions of North Brisbane, South Brisbane, Kangaroo Point, and Fortitude Valley. Pop. of portions within a 10-mile radius (1901) 119,428.

Brisson, Eugene Henri, a French politician and journalist, born in Bourges, July 31, 1835. He entered the Chamber of Deputies, in 1871, and won much attention by urging amnesty for the Communists and other political offenders. Afterward he was one of the foremost members of the Radical Party. He was elected President of the Chamber, in 1881, and retained that office until the overthrow of the Ferry ministry in 1885, when he accepted the Premiership. He was re-elected to the Presidency of the Chamber in 1894, and, in 1895, retired and was a conspicuous candidate for the Presidency of France. He died April 14, 1912.

Brissot de Warville, Jean Pierre, a French political writer; born in 1754. Embracing the Revolution, he was elected to the National Assembly for Paris and to the Convention for the Department of the Eure et Loir. As leader of the Girondist party, his history belongs henceforward to the history of France. He voted, out of policy, for the death of Louis XVI., subject to confirmation by the vote of the people; and he caused war to be declared against Holland and England in February, 1793. This was his last political act. He was executed in Paris, Oct. 30, 1793.

Bristles, the strong hairs growing on the back of the hog and wild boar, and extensively used in the manufacture of brushes, and also by shoemakers and saddlers.

Bristol, a cathedral city of England, a municipal and a parliamentary borough, situated partly in Gloucestershire, partly in Somersetshire, but forming a county in itself. It stands at the confluence of the rivers Avon and Frome, which unite within the city, whence the combined stream (the Avon) pursues a course of nearly 7 miles to the Bristol Channel. The

Avon is a navigable river, and the tides rise in it to a great height. Sebastian Cabot, Chatterton, and Southey were natives of Bristol. Pop. (1901) 328,842.

Bristol Bay, an arm of Bering Sea immediately N. of Alaska.

Bristol Channel, an arm of the Atlantic, extending between the S. shores of Wales and the S. W. peninsula of England, and forming the continuation of the estuary of the Severn. It is remarkable for its high tides.

Bristow, Benjamin Helm, an American lawyer, born in Elkton, Ky., June 20, 1832. He was admitted to the bar in Kentucky in 1853. He served with distinction in the Civil War, and at its close was appointed United States District Attorney of Kentucky. In 1874 he became Secretary of the Treasury, and made his name memorable by the exposure and prosecution of a notorious whiskey ring. He died in New York city, June 22, 1896.

Bristow Station (old form, now **Bristoe**), a village in Prince William Co., Va.; 4 miles S. W. of Manassas Junction. On Aug. 27, 1862, a drawn battle took place here between the Federal army under General Hooker, and a Confederate one under General Early, and on Oct. 14, 1863, the Federal troops under General Warren repulsed with severe loss a Confederate attack under Gen. A. P. Hill.

Brittannia, the name applied by Cæsar and other Roman writers to the island of Great Britain.

Britannia Metal, an alloy of brass, tin, antimony, and bismuth, used to make cheap spoons, teapots, etc.

Brittany. See BRETAGNE.

British Association for the Advancement of Science, a society first organized in 1831, mainly through the exertions of Sir David Brewster, whose object is to assist the progress of discovery, and to disseminate the latest results of scientific research, by bringing together men eminent in all the several departments of science.

British Central Africa Protectorate, The, former name (since 1907 the Nyassaland Protectorate) of the part of British Central Africa bordering the shores of Lake Nyassa. It includes all British Nyassaland, as well as the Shire Highlands, and the greater part of the basin of the river Shire. The area of the Protectorate is about 38,000 square miles; the European inhabitants number about 300, and the native inhabitants are about 850,000.

British Columbia, a Province (including Vancouver Island) of the Dominion of Canada, bounded on the N. by the 60th parallel of lat.; E. by the Rocky Mountains; S. by the United States; and W. by Alaska, the Pacific Ocean, and Queen Charlotte's Sound; area, 383,300 square miles; pop. (1910) 321,733; capital, Victoria.

It is to its mineral wealth that British Columbia owes its present importance. Gold was discovered in 1857, and was the cause of the establishment of the separate colony. In 1897 the disclosing of the phenomenal gold field in the Klondike region led to great excitement throughout both Canada and the U. S., and since gold mines have been worked extensively at Rossland. Branch lines of the Canadian Pacific and the U. S. Great Northern railroads have opened up rich mineral, farming, and fruit-growing districts.

This Province has probably the richest fisheries in the world, the only obstacle to their rapid development being their remoteness from the consumers. Salmon is the principal catch, and is famous all over the world. British Columbia was originally a portion of the Hudson Bay Territory, and known as New Caledonia. In 1858 it was created a colony; in 1866 the colony of Vancouver Island was united to it; and in 1871 the united colony was admitted to the Dominion of Canada.

British East Africa, an immense territory of East Africa, between German East Africa and the Italian protectorate of Somaliland. In 1910, it comprised the protectorates of Nyassaland (43,608 sq. m., pop. 948,276, capital, Zomba); East Africa (189,838 sq. m., pop. est. 4,038,000, capital, Mombasa); Uganda (117,681 sq. m., pop. 3,520,000, capital, Entebbe); Zanzibar (1,020 sq. m., pop. 176,000, capital, Zanzibar); and Somaliland (68,000 sq. m., pop. 300,000, capital, Berbera).

British Empire, The. Britain, or rather Britannica, was the name

which was given by the Romans to modern England and Scotland. The name Great Britain was applied to England and Scotland after James I. ascended the English throne in 1603.

Extent of Empire.— The European dominions of the British empire comprise — in addition to Great Britain, Ireland, the Isle of Man, and the Channel Islands — the rocky promontory of Gibraltar, captured from Spain in 1704; and Malta, Gozo, and adjacent islets, ceded to Great Britain in 1800. The most important of the Asiatic possessions of Great Britain is India, acquired gradually since the incorporation of the East India Company in 1600, and especially during the great struggle with France in the 18th century. Great Britain also possesses Ceylon, acquired by conquest from the Dutch and from native rulers in 1796–1815; the Straits Settlements of Singapore (ceded in 1824), Penang (1786), Wellesley Province (1800), and Malacca (1824), on which are dependent various native States of the Malay peninsula; the island of Hong-Kong (taken in 1841) and territory on the adjacent mainland; portions of the islands of Borneo, namely British North Borneo (company chartered in 1881), to which is attached the island of Labuan (ceded 1846), the sultanate of Brunei, and Sarawak (practically British since 1842); Aden (1839), the island of Perim, the Kooria Mooria Islands, and the Bahrein Islands. Cyprus, though belonging to Turkey, has since 1878 been administered by Great Britain. In Africa Great Britain owns Cape Colony, gradually developed since its final acquirement in 1806, and including Walfisch bay; Basutoland (British since 1868); the Bechuanaland Protectorate (acquired in 1884); Natal (proclaimed British in 1843), to which are now annexed Zululand, and Tongaland (acquired in 1887); Rhodesia, including Matabeleland, Mashonaland, Barotseland, etc., recently begun to be developed by the British South Africa Company; the Central Africa Protectorate (acquired in 1889–1890, and proclaimed a protectorate in 1891); the West African Colonies; namely, Gambia (recognized as British in 1783), the Gold Coast (partly acquired in the 17th century), Sierra Leone (ceded 1787), and Lagos, with dependencies (occupied in 1861); Nigeria, including the Niger Coast Protectorate (1884) and the territories formerly administered by the Royal Niger Company (chartered in 1886); the East Africa Protectorate, proclaimed in 1895 over territories previously under the Imperial British East Africa Company (chartered 1888); the Uganda Protectorate, now including also Unyoro, Usoga, etc. (proclaimed in 1894); the Zanzibar Protectorate, consisting of the islands of Zanzibar and Pemba (under the protection of Great Britain since 1890); the Somali Coast Protectorate (acquired in 1884); the islands of Mauritius (taken from France in 1810), with its dependencies the Seychelles, etc.; the island of Socotra (1886); and the Atlantic islands, St. Helena (1651), Ascension (1815), and Tristan d'Acunha (1816). Besides Great Britain virtually rules Egypt and the reconquered Egyptian Sudan (1898), though the former is nominally part of the Ottoman empire; and, since the South African War, the former territories of the Orange Free State, and the Transvaal. Her possessions in the New World comprise the Dominion of Canada, most of which was obtained from France by conquest and treaty between 1713 and 1763; the island of Newfoundland, the oldest English colony (discovered by John Cabot in 1497), with its dependency Labrador; British Honduras (1783); the Bermudas Islands (1609); the West Indian Islands, namely, Jamaica (1655), the Bahamas (1629), several of the Leeward Islands (Antigua, St. Christopher, Dominica, etc.), the Windward Islands (Barbados, St. Lucia, St. Vincent, Grenada, the Grenadines, Tobago, etc.), and Trinidad (1797); British Guiana (1814); and the Falkland Islands (organized 1833) and South Georgia. The British empire in Australasia includes Australia (explored and settled from the latter part of the 18th century onward); Tasmania (settled by Englishmen in 1803); New Zealand (begun to be colonized in 1839); a portion of New Guinea (1884); the Fiji Islands (1874); and many small islands in the Pacific.

The British Empire rules or controls nearly one-fifth of the land surface of the globe, and more than one-fourth of the world's population. Its territories cover 11,000,000 square miles, and its people number 400,000,000.

British Museum, the great national museum in London, owes its foundation to Sir Hans Sloane, who, in 1753, bequeathed his various collections, including 50,000 books and MSS., to the nation, on condition of $100,000 being paid to his heirs. This offer was agreed to by Parliament. The British Museum is under the management of 48 trustees, among the chief being the Archbishop of Canterbury, the Lord-Chancellor, and the Speaker of the House of Commons. In all the staff of the institution numbers over 320 persons. The museum is open daily, free of charge. Admission to the reading-room as a regular reader is by ticket, procurable on application to the chief librarian, there being certain simple conditions attached. The institution contains something like 2,000,000 volumes in the department of printed books. A copy of every book, pamphlet, newspaper, piece of music, etc., published anywhere in British territory, must be conveyed free of charge to the museum.

British South Africa Company, a corporation founded in 1889, with a royal charter, by Cecil Rhodes and others, for the purpose of controlling, settling, administering and opening up by railways and telegraphs, etc., certain territories in Central South Africa. Mashonaland was first settled, and, in 1893, Matabeleland was annexed and settled after the defeat of King Lobengula. In 1895, North Zambezia, in British Central Africa, was added, as well as a strip of territory in the Bechuanaland Protectorate. This territory has been called Rhodesia, or British Zambezia; area, about 500,000 square miles. In consequence of the filibustering raid of Dr. Jameson, an officer of the company, near the close of 1895, Rhodes resigned his connection with the company in 1896, and a joint administrator of the territory was appointed by the British crown. See RHODESIA.

Britton, Nathaniel, Lord, an American scientist; born on Staten Island, N. Y., Jan. 15, 1858. He was Professor of Botany in Columbia School of Mines in 1888–1896, and later Director of the New York Botanical Garden.

Broad Arrow, the mark cut or stamped on all English government property and stores. It was the cognizance of Henry, Viscount Sydney, Earl of Romney, Master-General of the Ordnance, 1693–1702, and was at first placed only on military stores. It is also the mark used in the British Ordnance Survey to denote points from which measurements have been made.

Broad Bill, a species of wild duck, the shoveler; also the spoon bill.

Broadhead, Garland Car, an American geologist; born in Albemarle Co., Va., Oct. 30, 1827. He studied at the University of Missouri and was long the State Expert in Geology. From 1887 to 1897 he was Professor of Geology at the University of Missouri.

Broad Mountain, a mountain ridge of Pennsylvania, in Carbon and Schuylkill counties, about 50 miles long.

Broad River, a river of North Carolina, rising in the Blue Ridge mountains, and making a junction with the Saluda at Columbia to form the Congaree; about 200 miles long.

Broad Top Mountain, a mountain in Bedford and Huntington counties, Pennsylvania; extensively mined for anthracite coal. Height about 2,500 feet.

Broadway, the great business street of New York. Starting from Bowling Green, at the lower extremity of the island, it runs northward in a somewhat diagonal direction, separating the city into substantially equal eastern and western parts. It was formerly the Boulevard above 59th street, but the whole length of the thoroughfare is now known as Broadway. It is part of a continuous road from New York to Albany. A portion of the rapid transit subway has been built under Broadway, and an underground trolley line is on the surface in New York city.

Broccoli, a late variety of the cauliflower, hardier and with more color in the lower leaves. The part

of the plant used is the succulent flower stalks. Although broccoli is inferior in flavor to cauliflower it serves as a fair substitute.

Brock, Sir Isaac, a British military commander, born in Guernsey, Oct. 6, 1769; suppressed a threatened mutiny in Canada in 1802; made Lieutenant-Governor of Upper Canada in 1810; took Detroit from the Americans under General Hull in 1812; and was killed at the battle of Queenstown, Oct. 13, 1812. A monument to his memory stands on the W. bank of the Niagara river.

Brocken, the culminating point of the Hartz Mountains, in North Germany, Kingdom of Saxony, cultivated nearly to its summit, which is 3,740 feet above the level of the sea. The phenomenon called the "Specter of the Brocken" is here occasionally seen at sunset and sunrise. It is caused by the rising of the mists from the valley opposite to the sun.

Brockton, a city in Plymouth county, Mass.; on the New York, New Haven & Hartford railroad; 20 miles S. of Boston; is one of the largest boot and shoe manufacturing places in the country, with also an extensive output of shoe machinery, rubber goods, and sewing machines, and has a property valuation exceeding $40,000,000. Pop. (1910) 56,878.

Brockville, a port of entry and capital of Leeds county, Ontario, Canada; on the St. Lawrence river and the Grand Trunk and other railroads, 125 miles S. W. of Montreal. Pop. (1901) 8,940.

Broderick, David Colbreth, an American legislator, born in Washington, D. C., Feb. 4, 1820; was defeated for Congress in New York in 1846; went to California, and was elected a member of the Constitutional Convention of 1849; served as Speaker of the Senate; and was elected to the United States Senate in 1856, where he actively opposed the admission of Kansas. He was killed in a duel by Judge David S. Terry, Sept. 16, 1859.

Brodhead, John Romeyn, an American historian, born in Philadelphia, Jan. 2, 1814; graduated at Rutgers College in 1831; made a valuable collection of documents in Europe bearing upon American history that was published by the State of New York; author of a "History of the State of New York." He died in New York city, May 6, 1873.

Broglie, a prominent French family, of Piedmontese origin. JACQUES VICTOR ALBERT, Duc de Broglie, born June 13, 1821, early entered the field of literature, and was elected an Academician in 1862. Returned as a deputy in 1871, he was, till May, 1872, Ambassador at London; he then became leader of the Conservative Right Center, and with a view to force a monarchical government on France, he brought about the resignation of Thiers, and the election of MacMahon, in 1873. He was twice Premier — in 1873–1874 and in 1877 — resignation being on both occasions forced on him by Gambetta's exposure of his reactionary tactics.

Brogue, a brogan; a stout, heavy leather shoe, resembling in form the French sabot. Applied generally to the pedal coverings of the Scottish Highlanders and the Irish peasantry. It is also applied to a corrupt dialect, or mode of pronunciation; as, spoken with the Irish brogue.

Broiling, the cooking of meat or fish on a gridiron above a fire, or by laying it directly on the coals, a very wholesome method of cookery.

Broke, Sir Philip Bowes Vere, a British admiral, born near Ipswich, Sept. 9, 1776; distinguished himself particularly in 1813, as commander of the "Shannon," in the memorable action which that vessel fought with the United States vessel "Chesapeake" off the American coast, and in which the latter was captured. He died in London, Jan. 2, 1841.

Broken Wind, a disease of the organs of respiration in horses, commonly produced by the rupture of the lung cellular tissue.

Broker, an agent employed to make bargains and contracts between other persons, in matters of commerce, for a compensation commonly called brokerage. A broker usually confines his attention to one particular market, as wool, sugar, or iron, and the special knowledge he thus acquires renders his services useful to the general merchant, who has no such intimate acquaintance with the trade.

The broker is strictly a middleman, or intermediate negotiator between the parties, finding buyers or sellers as required. He does not act in his own name, nor has he generally the custody of the goods in which he deals, thus differing from a factor, and he cannot sell publicly like an auctioneer. He is treated as the agent of both parties, though primarily he is deemed the agent of the party by whom he is originally employed. Besides ordinary commercial brokers, there are several other sorts, such as stock-brokers, share-brokers, ship-brokers, insurance-brokers, bill-brokers, etc.

Bromide, a combination of bromine with a metal or a radical. Bromides are soluble in water, except silver and mercurous bromides; lead bromide is very slightly soluble.

Bromine, a non-metallic element. Bromine has been applied externally as a caustic, but rarely. Its chief officinal preparations are bromide of ammonium, useful in whooping cough, infantile, convulsions, and nervous diseases generally; and bromide of potassium, now very extensively used, especially in epilepsy, hysteria, delirium tremens, diseases of the throat and larynx, bronchocele, enlarged spleen, hypertrophy of liver, fibroid tumors, etc. Also, as an antaphrodisiac, for sleeplessness, glandular swellings, and skin diseases. Its alterative powers are similar to but less than those of the iodides. It has a pungent saline taste, no odor, and occurs in colorless cubic crystals, closely resembling the iodide. As a hypnotic its usefulness is much increased by combining it with morphia or chloral hydrate.

Bronchi, the two branches into which the trachea or windpipe divides in the chest, one going to the right lung, the other to the left, and ramifying into innumerable smaller tubes — the bronchial tubes.

Bronchitis, inflammation of the air tubes leading to the pulmonary vesicles, accompanied by hoarseness, cough, increase of temperature, and soreness of the chest anteriorly. The uneasy sensations begin about the region of the frontal sinuses, passing from the nasal mucous passages, trachea, and windpipe to the chest, with hoarseness, cough, and expectoration; but in capillary bronchities the cough is dry and without expectoration. In acute cases the sputum is first thin, then opaque and tenacious, lastly purulent; the breathing is hurried and laborious, the pulse quickened, and the skin dry. The danger increases in proportion as the finer bronchial tubes become involved, and, instead of the healthy respiratory sound we have sharp, chirping, whistling notes, varying from sonorous to sibilant. The sharp sound is most to be feared, as arising in the smaller tubes; the grave, sonorous notes originate in the larger tubes. Spitting of blood sometimes occurs, and in severe cases persons actually die suffocated from the immense quantity of mucus thrown out, obstructing the tubes and causing collapse of the vesicular structure of the lungs. The ratio of the respiration to the pulse is high, going up to 60 or even 70 in the minute, with a pulse rate of 120 or 130. Chronic bronchitis, or bronchial catarrh, is extensively prevalent, especially among the aged, recurring once or twice a year in spring or autumn, or both, till it becomes more or less constant all the year round.

Bronchocele, an indolent tumor on the forepart of the neck caused by enlargement of the thyroid gland, and attended by protrusion of the eyeballs, anæmia, and palpitation.

Brongniart, Alexander, a French geologist and mineralogist, born in Paris, Feb. 5, 1770; died in Paris, Oct. 7, 1847. His son, ADOLPHE THEODORE BRONGNIART, born in 1801, died in 1876, became Professor of Botany at the Jardin des Plantes, Paris, 1833, and was the author of several botanical works held in high esteem.

Bronte, a town of Sicily, at the W. base of Mt. Etna, 33 miles N. W. of Catania. The lava streams of 1651 and 1843 lie on either side, but the district around is fertile, and produces wine. Lord Nelson was created Duke of Bronte by the Neapolitan Government in 1799. Pop. (1901) 20,366.

Bronte, Anne, an English novelist and poetess, born in Haworth, Yorkshire, March 24, 1820; sister of CHARLOTTE BRONTE. She died in Scarborough, May 28, 1849.

Bronte, Charlotte, (afterward Mrs. Nicholls), an English novelist, born in Thornton, Yorkshire, April 21, 1816; was the third daughter of the Rev. Patrick Bronte, rector of Thornton, from which he removed in 1820 on becoming incumbent of Haworth, in the West Riding of Yorkshire, about 4 miles from Keighley. Her mother died soon after this removal, and her father, an able though eccentric man, brought up Charlotte and her sisters in quite a Spartan fashion, inuring them to every kind of industry and fatigue. After an education received partly at home and partly at neighboring schools, Charlotte became a teacher, and then a governess in a family. In 1844 arrangements were entered into by the three sisters to open a school at Haworth, but from the want of success in obtaining pupils no progress was ever made with their scheme. They resolved now to turn their attention to literary composition; and, in 1846, a volume of poems by the three sisters was published, under the names of CURRER, ELLIS and ACTON BELL. It was issued at their own risk, and attracted little attention, so they quitted poetry for prose fiction, and produced each a novel. Charlotte (CURRER BELL) entitled her production "The Professor," but it was everywhere refused by the publishing trade, and was not given to the world till after her death. Emily (ELLIS BELL) with her tale of "Wuthering Heights," and Anne (ACTON BELL) with "Agnes Grey," were more successful. Charlotte's failure, however, did not discourage her, and she composed the novel of "Jane Eyre," which was published in October, 1847. Its success was immediate and decided. Her second novel of "Shirley" appeared in 1849. Previous to this she had lost her two sisters, Emily dying on Dec. 19, 1848, and Anne May 28, 1849 (after publishing a second novel, the "Tenant of Wildfell Hall"). In the autumn of 1852 appeared Charlotte's third novel, "Villette." Shortly after, she married her father's curate, the Rev. Arthur Bell Nicholls, but in nine months died of consumption, March 31, 1855. Her originally rejected tale of "The Professor" was published after her death in 1857, and the same year a biography of her appeared from the pen of Mrs. Gaskell.

Brontosaurus Excelsus, a species of herbivorous dinosaur of the Triassic and Jurassic periods. It is supposed to have been a hippopotamus-like animal, and to have lived on vegetation in the waters. It was about 60 feet long, and 15 feet high at the middle of the body, and, although its body was of this great size, it had one of the smallest heads known among vertebrates.

Brontotherium, or **Titanotherium,** a genus of the extinct mammals first found in the Bad Lands of South Dakota, and later in Nebraska and Colorado. The brontotherium was about the size of the elephant. The nose was evidently flexible, but there was no true proboscis.

Bronx, The, a borough of Greater New York, lying N. and E. of the borough of Manhattan, between the Hudson river, East river, and Long Island Sound, including City, Riker's, Hunter's, Twin, Hart, High and several adjacent islands; area, 25,270 acres; pop. (1910) 430,980. It contains an extensive public park, with a botanical garden of 250 acres, and is the site of the newly established New York Zoological Gardens. The statistics of this borough are included with those of Manhattan borough. See NEW YORK CITY.

Bronze, an alloy of copper and tin. It was used by the ancient Assyrians and Egyptians. Layard brought many ornaments and other articles of this metal from Assyria. Bronze is more fusible, as well as harder than copper. It is also a fine-grained metal, taking a smooth and polished surface; hence its universal use, both in ancient and modern times, in making casts of all kinds, medals, bas-reliefs, statues, etc. Its color is a reddish-yellow, and is darkened by exposure to the atmosphere. Its composition varies according to the purpose for which it is to be employed, and other constituents besides copper and tin frequently enter into it. Whatever alloy is principally formed of these metals, however, is called bronze.

Bronzes, in archæology, works of art cast in bronze. Bronze was considered by men of ancient times as

sacred to the gods; and the Roman emperors who struck gold and silver coins could not strike them of bronze without the permission of the senate; hence the inscription S. C. (Senatus consulto).

Bronzing, the process of giving a bronze-like or antique metallic appearance to the surface of metals or plaster casts.

Brooch, a kind of ornament worn on the dress, to which it is attached by a pin stuck through the fabric.

Brooke, Henry, an Irish novelist and dramatist; born in Rantavan, County Cavan, Ireland, about 1703; died in Dublin, Oct. 10, 1783.

Brooke, Sir James, Rajah of Sarawak, was born in Benares, India, April 29, 1803. In 1838, having gone to Borneo, he assisted the Sultan of Brunei (the nominal ruler of the island) in suppressing a revolt. For his services he was made Rajah and Governor of Sarawak, a district on the N. W. coast of the island, and, being established in the Government, he endeavored to induce the Dyak natives to abandon their irregular and piratical mode of life and to turn themselves to agriculture and commerce; and his efforts to introduce civilization were crowned with wonderful success. He was made a K. C. B. in 1847, and was appointed Governor of Labuan. He died in Devonshire, England, June 11, 1868.

Brooke, John Rutter, an American military officer, born in Pottsville, Pa., July 21, 1838. He entered the army as captain in a volunteer regiment on the breaking out of the Civil War in 1861, and resigned in February, 1866, with the rank of Brevet Major-General. In July of the same year he was appointed Lieutenant-Colonel of the 37th United States Infantry. He was promoted to Colonel in March, 1879; Brigadier-General, April 6, 1888, and Major-General, May 22, 1897. After the declaration of war against Spain, he was placed in command of the First Provisional Army Corps, and subsequently distinguished himself in the campaign in Porto Rico, and was made a member of the joint military commission to arrange the cession of the island to the United States. On Dec. 13, 1898, he was appointed Military and Civil Governor of Cuba, a post which he held till April, 1900, when he was succeeded by Gen. Leonard Wood. On May 10, following, he succeeded Major-General Wesley Merritt as commander of the Military Department of the East, with headquarters in New York.

Brooke, Stopford Augustus, an English Unitarian preacher, born in Dublin in 1832. He was educated at Trinity College, Dublin. He has held important curacies in London, and in 1872 was appointed Chaplain in Ordinary to the Queen. He subsequently became a Unitarian.

Brook Farm Association, a community which originated in 1841, with William Henry Channing, George Ripley, and Sophia, his wife, with whom were united from time to time George William Curtis, Nathaniel Hawthorne, Theodore Parker, Charles Anderson Dana, John Sullivan Dwight, Margaret Fuller, and other personages of a philosophic turn of mind. The scheme of the association contemplated utilizing the labor — physically and intellectually — of each of its members, at a certain fixed rate, the intention being to dispose of the results of such labor to the outside public, and with such profit that all the delights and adornments of life were to be procurable therefrom, and were to be held in common by the members. The whole undertaking came to an end in 1846.

Brookline, a town in Norfolk county, Mass.; on the Charles river and the Boston & Maine railroad; 3 miles W. of Boston; manufactures electrical and philosophical appliances; is best known as one of the wealthiest and most beautiful residential sections in the country; has a property valuation exceeding $105,000,000. Pop. (1910) 27,792.

Brooklyn, a former city, and the fourth in population in the United States, according to the Federal census of 1890; since Jan. 1, 1898, one of the five boroughs of the city of Greater New York; situated on the W. extremity of Long Island, on New York Bay and the East river, which separates it from New York and connects Long Island Sound with New York Bay. Brooklyn is connected

with New York by several bridges, tunnels, and numerous ferries. It comprises Brooklyn proper, Williamsburg, Gravesend, Flatbush, Flat Lands, New Lots, New Utrecht and several smaller suburban towns that were united with it prior to its consolidation with New York. It now extends from the Atlantic Ocean at Coney Island to the East river and New York harbor, and occupies the whole of Kings county; area 66.39 square miles; pop. (1900) 1,166,582; (1910) 1,634,351.

There are 16 parks in Brooklyn, with an area of 754 acres. Prospect Park is the largest, with 516 acres, including 77 acres of lakes and waterways, 70 acres of meadows, 110 acres of woodland, and 259 of plantations. It is situated on an elevated ridge and commands a magnificent view of the ocean, the Sound, Long Island, New Jersey, and New York city. It has been left to a great extent in its original wooded condition, making it one of the most picturesque parks in the United States. There are 8 miles of drives, 11 miles of walks, and 4 of bridle paths. The Flatbush avenue entrance, or the Plaza, is paved with stone and surrounded by grass. There is a Soldiers and Sailors' Memorial Arch and a statue of President Lincoln at this entrance. Of the other parks, Washington Park, the site of extensive Revolutionary fortifications, of which Fort Green is the principal one, is the largest. Among the smaller parks are the City Park, Carrol Park, and Tompkins Park.

The most notable and important navy yard in the United States is located here, and is always a place of large patriotic interest, because of its buildings, its relics, and the old and new types of warships that are generally to be seen here.

Brooklyn has been widely known as the City of Churches. There are now nearly 470 of such edifices and chapels. The Roman Catholic, with 83 churches, is the strongest denomination. Then follow the Methodist Episcopal (60); Protestant Episcopal (54); Baptist (47); Lutheran (40); Presbyterian (37); Congregational (33); Reformed (34); synagogues (18), and others of various denominations (about 70). In 1900 there were 130,311 church members; 138,136 Sunday School scholars, and, in the previous year, the churches expended for current expenses, debt, extensions, and missions, $2,119,485.

The most important hospitals in Brooklyn are the Long Island College, Brooklyn, Brooklyn Homœopathic, General, St. Mary's Methodist, St. John's, and St. Peter's. The city has 24 dispensaries, 5 training-schools for nurses, 25 orphan asylums and industrial schools, 11 homes for the aged, and 6 nurseries. The public institutions are mostly at Flatbush, and consist of the Insane Asylum, Hospital, and Almshouse. There is an Inebriates' Home in Bay Ridge.

The city is noted for the number and standing of its educational institutions, both public and private. The Packer Institute for girls, the Polytechnic Institute for boys, Adelphi College, and The Pratt Institute have national renown. The Brooklyn Institute of Arts and Sciences, an outgrowth from an association founded in 1823, is another noted institution. It includes 25 departments with lectures, so that its teaching methods resemble those of a large university.

Brooklyn was settled by the Dutch in 1636 at New Utrecht. In 1646 five small towns consolidated under the name of Breuckelen, from the Dutch town whence most of the settlers came. In 1666 the first Dutch church was built in Breuckelen. About this time the English came into possession of New York and Long Island, and Breuckelen became a part of West Riding. On Aug. 27, 1776, the battle of Long Island was fought in Brooklyn, and the village was held by the British till 1783. Brooklyn was incorporated as a village in 1816; and in 1834 it became a city. Several adjoining towns were annexed from time to time, and in 1896 Brooklyn comprised all of Kings county. On Jan. 1, 1898, Brooklyn was consolidated with Greater New York, under the name of the Borough of Brooklyn.

Brooks, Eldredge Streeter, an American author; born in Lowell, Mass., in 1846; died in Somerville, Mass., Jan. 7, 1902.

Brooks, Maria Gowan, an American poet, pseudonym MARIA DEL OCCIDENTE, born in Medford, Mass.,

about 1795; spent her youth in Charlestown, Mass., and the rest of her life in London, New York and Cuba. She died in Matanzas, Cuba, Nov. 11, 1845.

Brooks, Noah, an American journalist and author, born in Castine, Me., Oct. 30, 1830. Died Aug. 16, 1903.

Brooks, Phillips, an American clergyman of the Episcopal Church, born in Boston, Dec. 13, 1835. He was rector of Protestant Episcopal churches successively in Philadelphia and in Boston, and was made Bishop of Massachusetts in 1891. He was an impressive pulpit orator, had great spiritual force, and published many volumes of sermons and lectures. He died in Boston, Jan. 23, 1893.

Brooks, Preston Smith, an American legislator, born in Edgefield, S. C., Aug. 14, 1819. He served in the Mexican War; was elected to Congress in 1853, and on May 22, 1856, he assaulted Senator Charles Sumner in the Senate Chamber, beating him into insensibility with a cane. He afterward resigned, but was immediately returned to the House by his District. He died in Washington, D. C., Jan. 27, 1857.

Brooks, William Keith, naturalist, born in Cleveland, O., March 25, 1848, graduated LL. D. from Williams College (1870); Ph. D. Harvard (1874). From 1876 assistant-professor, and since 1883, professor of zoology in Johns Hopkins University. His works include "Invertebrate Zoology," "Foundations of Zoology," etc.

Brother Jonathan, a phrase applied to the people of the United States, as "John Bull" is to the people of England. Washington, on assuming command of the New England Revolutionary forces, was in great straits for arms and war material. The governor of Connecticut, Jonathan Trumbull, was a man of excellent judgment and an esteemed friend of Washington. In the emergency Washington said, "We must consult Brother Jonathan." This expression was repeated on other difficult occasions, and became a convenient name for the whole people.

Brotherhoods, Religious, were societies instituted for pious and benevolent purposes, and were numerous in the Middle Ages.

Brotherhood of Andrew and Phillip, founded in 1888 by Rev. Rufus W. Miller of the Second Reformed Church, Reading, Pa., has grown into a religious and social order among 23 Protestant denominations; with 638 chapters and 20,000 members in the United States, and chapters also in Canada, Japan, and Australia.

Brotherhood of St. Andrew, of the Protestant Episcopal Church, founded in Chicago in 1883 by the Rev. W. H. Vibbert and James Houghteling for "the spread of Christ's Kingdom among young men," in 1902 had 1710 chapters, and 15,000 members.

Brotherhood of St. Paul, of the Methodist Episcopal Church, founded 1895 by the Rev. F. D. Leete, Rochester, N. Y., comprises the Orders of Jerusalem, Damascus, and Rome, for various grades of membership.

Brougham, Henry Peter, Lord Brougham and Vaux, a British statesman, orator, and author, born in Edinburgh, Sept. 19, 1778; entered the University of Edinburgh in 1792. In 1802 he helped to found the "Edinburgh Review," contributing to the first four numbers 21 articles, and to the first 20 numbers 80 articles. The article on Byron's "Hours of Idleness" provoked the poet to write his "English Bards and Scotch Reviewers." In 1810 Brougham entered Parliament, where his remarkable eloquence gave him at once a commanding place. He was counsel for Queen Caroline in George IV.'s suit against her (1820), winning a decisive victory, which raised him to the height of fame and popularity. He became Lord Chancellor in 1830, and was at the same time created a baron; he resigned on the defeat of the Whigs in 1834, and never again held public office, though still taking effective part in the business and debates of the House of Lords. He died in Cannes, France, May 7, 1868.

Brougham, John, an American actor and playwright, born in Dublin, Ireland, May 9, 1810; made his debut as an actor in England in 1830. He came to the United States in 1842.

and, with the exception of a short return trip to England in 1860, remained here until his death. He was the author of over 100 comedies, farces, and burlesques. He died in New York, June 7, 1880.

Broughton, Rhoda, an English novelist, daughter of a clergyman, born in Wales, 1840. Among her works are "Alas!"; "Scylla or Charybdis"; "Dear Faustina"; "Foes in Law", etc.

Broussa, Brusa, or **Boursa,** the ancient Prusa, where the Kings of Bithynia usually resided, situated in Asiatic Turkey, at the foot of Mount Olympus, in Asia Minor, 13 miles S. of the Sea of Marmora. Broussa is pleasantly situated, facing a beautiful and luxuriant plain. The water supply is good, and water flows down the center of some of the streets, which are clean, but for most part narrow and dark, and the bazaars very good. It contains about 200 mosques, some of which are very fine buildings, also three Greek churches, an Armenian and several synagogues. The population of Broussa is about 37,000, of whom 5,000 are Greeks.

Broussais, Francois Joseph Victor, a French physician, born in St. Malo, Dec. 17, 1772. Professor at the Military Hospital of Val de Grace in 1820, he became Professor of General Pathology in the Faculty of Medicine, in Paris, 1832, and afterward was made a member of the Institute. The influence of Broussais in his generation was unbounded, and his so-called "Physiological Doctrine" rapidly acquired a great sway, the traces of which are visible even now, though a more exact knowledge of physiology has demonstrated that the views of Broussais were one-sided and exaggerated. The basis of Broussais' doctrine was the assumption that the animal tissues are endowed with a property called irritability, a property which is called into play by the action of stimuli of various kinds, and by the operations of which all vital phenomena are produced. He died in Paris, Nov. 17, 1838.

Brown, the color produced when certain substances — wood or paper, for example — are scorched or partially burned. Brown is not one of the primary colors in a spectrum. It is composed of red and yellow, with black, the negation of color. It is also the name of a genus of colors, of which the typical species is ordinary brown, tinged with grayish or blackish. The other species are chestnut brown, deep brown, bright brown, rusty, cinnamon, red brown, rufous, glandaceous, liver colored, sooty, and lurid.

Brown, Benjamin Gratz, an American politician, born in Lexington, Ky., May 28, 1826; graduated at Yale in 1847. He practiced law in Missouri, and was a member of the State Legislature in 1852–1858. In the Civil War he served in the Union army, recruiting a regiment, and becoming a Brigadier-General of volunteers. In 1863–1867 he was United States Senator from Missouri, and in 1871 was elected governor of his State. He was the candidate for the Vice-Presidency of the United States on the ticket with Horace Greeley in 1872. He died in St. Louis, Dec. 13, 1885.

Brown, Charles Brockden, an American novelist, born in Philadelphia, Jan. 17, 1771, was of a highly respectable family, of Quaker descent. He studied law, but took a disgust to the practice of the profession, and abandoned it for literature. In 1798 he established himself in New York, and when the yellow fever broke out there he refused to forsake his friends and neighbors; and, after performing the last offices of affection for one of them, a young physician, was himself attacked by the pestilence. Between 1803 and 1809 he published three political pamphlets, which excited general attention. He died Feb. 22, 1810.

Brown, Charles Rufus, an American clergyman and Hebrew scholar, born in East Kingston, N. H., Feb. 22, 1849. He was graduated at the United States Naval Academy in 1869, at Harvard in 1877, and at Union Theological Seminary in 1879. He was ordained a Baptist minister in 1881 and held pastorates at Salem and Worcester, Mass. He has been Professor of Hebrew at Newton Theological Institution since 1886, and has written important text books in the Oriental languages.

Brown, Emma Elizabeth, ("B. E. E."), an American author and

artist, born in Concord, N. H., Oct. 18, 1847.

Brown, Sir George, an English military officer, born near Elgin in 1790; served in the Peninsular War, and in the American campaign of 1814. He became lieutenant-general in 1851; and distinguished himself in the Crimean War at Alma, Inkermann, and Sebastopol. He was made K. C. B. in 1855, and died in 1865.

Brown, Goold, an American grammarian, born in Providence, R. I., March 7, 1791; died in Lynn, Mass., March 31, 1857.

Brown, Harvey, an American army officer, born in Rahway, N. J., in 1795; graduated at West Point in 1818. He was in constant service for more than 45 years. In the Black Hawk expedition, the Seminole Indian campaigns, in the Army of Occupation in Mexico, and to the time of the Civil War, he did gallant duty, for which he received several brevets. In 1862 he was brevetted a Brigadier-General in the Regular army and promoted Colonel, and in 1863 was promoted to Major-General, U. S. A., and retired. He died in Clifton, Staten Island, N. Y., March 31, 1874.

Brown, Henry Kirke, an American sculptor, born in Leyden, Mass., Feb. 24, 1814. He made the equestrian statue of Washington in Union Square, New York, the altar piece for the Church of the Annunciation in the same city, portrait busts of William Cullen Bryant, Dr. Willard Parker, Erastus Corning and other New York men, and the statue of De Witt Clinton in Greenwood cemetery. The last named was the first bronze statue cast in the United States. Mr. Brown brought skilled workmen from Europe and did the first work in bronze casting attempted in this country. Some of his other well known works are a statue of Lincoln in Prospect Park, Brooklyn, and equestrian statues of Gen. Scott and Nathanael Greene for the National Government, etc. He died in Newburg, N. Y., July 10, 1886.

Brown, Jacob, an American army officer, born in Bucks county, Pa., May 9, 1775. He was a commander on the Canadian frontier in the War of 1812. In the engagements at Fort Erie he so distinguished himself as to receive the thanks of Congress, Nov. 13, 1814. The city of New York also voted him its freedom. At the close of the war he was in command of the Northern Division of the army, and, in March, 1821, became general-in-chief of the United States army. He died in Washington, D. C., Feb. 24, 1828.

Brown, John, an American opponent of slavery, born in Torrington, Conn., May 9, 1800. He early conceived a hatred for slavery, and, having removed to Osawatomie, Kan., in 1855, he took an active part against the pro-slavery party, the slavery question there having given rise almost to a civil war. In the summer of 1859 he rented a farmhouse about 6 miles from Harper's Ferry, and organized a plot to liberate the slaves of Virginia. On Oct. 16, he, with the aid of about 20 friends, surprised and captured the arsenal at Harper's Ferry, but was wounded and taken prisoner by the Virginia militia next day; and was tried and executed at Charlestown, Dec. 2, 1859. His fate aroused much sympathy in the North, and undoubtedly hastened the great anti-slavery conflict. "John Brown's body lies moldering in the grave, But his soul is marching on," was a favorite marching song of the Union troops in the Civil War.

Brown, John George, an Anglo-American painter, born in Durham, England, Nov. 11, 1831; was educated in the common schools in Newcastle-on-Tyne, and came to the United States in 1853. He studied in the schools of the National Academy of Design; was elected an Academician in 1863; received honorable mention at the Paris Exposition in 1899; and in 1900 was president of the American Water Color Society.

Brown, John Hamilton, an American inventor, born in Liberty, Me., July 28, 1837. At the age of 18 he was apprenticed to a gunsmith and in 1857 he entered business in Haverhill, Mass. He served in the Civil War as a sharpshooter, and in 1882 was a member of the American Rifle Team at Wimbledon. He began in 1883 to perfect the invention of a weapon for military use later known as the Brown segmental wire-wound

gun, which, after numerous Government tests, was pronounced a success.

Brown, John Howard, an American editor, born in Rhinebeck, N. Y., Nov. 8, 1840. After studying law in New York city and engaging in journalism in Washington, D. C., and Augusta, Ga., he became a publisher in New York city. He is a member of the American Academy of Political and Social Science; the Society of American Authors, and the American Social Science Association.

Brown, Joseph Emerson, an American statesman, born in Pickens county, S. C., April 15, 1821; educated at Calhoun Academy, and graduated at Yale in 1846. He settled in Canton, Ga.; served in the State Legislature, and was elected governor in 1857; serving three terms. As war governor he opposed Jefferson Davis in the matter of the conscription laws and raised 10,000 recruits to oppose Sherman's march to the sea; but would not allow them to leave the State. After the war he gave hearty support to the reconstruction measures, and supported Gen. Grant for the Presidency. He was Chief Justice of Georgia in 1868, and United States Senator in 1880–1891. He died in Atlanta, Ga., Nov. 30, 1894.

Brown, Nicholas, an American merchant, born in Providence, R. I., April 4, 1769; best known as the chief patron of Brown University. In honor of his gifts, which exceeded $100,000, the name of the institution was changed, in 1804, from Rhode Island College to Brown University. He gave also magnificent sums to other public institutions of Providence. He died Oct. 27, 1841.

Brown (or **Browne**), **Robert,** founder of an English religious sect first called Brownists, and afterward Independents, was born about 1540, and studied at Cambridge, where, in 1580, he began openly to attack the government and liturgy of the Church of England as anti-Christian.

Brown, Robert, a Scotch botanist, born in Montrose, Dec. 21, 1773. In 1800 he was appointed naturalist to Flinders' surveying expedition to Australia. He returned with nearly 4,000 species of plants. He died in London, June 10, 1858. As a naturalist Brown occupied the very highest rank among men of science.

Browne, Charles Farrar, an American humorist, best known as ARTEMUS WARD, born at Waterford, Me., April 26, 1834. Originally a printer, he became editor of papers in Ohio, where his humorous letters became very popular. He subsequently lectured in the United States, and in England, where he contributed to "Punch." He died in Southampton, England, March 6, 1867.

Browne, William, an English poet, born in Tavistock, Devonshire, in 1591; died in Ottery St. Mary about 1643.

Brownell, Franklin P., a Canadian artist, born in New Bedford, Mass. His specialties are portrait and figure painting. He has for some years been principal of the Ottawa Art School.

Brownell, Henry Howard, an American poet and historian, born in Providence, R. I., Feb. 6, 1820. His first poetic venture was a spirited versification of Farragut's "General Orders" to the fleet below New Orleans. Afterward he was appointed to an honorary place on the "Hartford," flagship, and had opportunity to observe actual naval warfare. In "The Bay Fight" he describes, with truth and force, the battle of Mobile Bay. He died at East Hartford, Conn., Oct. 31, 1872.

Brownell, William Crary, an American essayist and critic, born in New York city, Aug. 30, 1851. He graduated from Amherst, and devoted himself to critical and editorial work in New York.

Brownie, an imaginary being to whom evil properties were attributed; a domestic spirit or goblin, meager, shaggy, and wild, supposed to haunt many old houses, especially those attached to farms.

Browning, Elizabeth Barrett, a distinguished English poet, regarded by some as the greatest which England has ever produced; born in London, March 6, 1809. In 1846 she was married to Robert Browning, and died at Florence, Italy, June 29, 1861.

Browning, Robert, one of the greatest of the Victorian poets; born in Camberwell, England, May 7, 1812.

His father, who was a clerk in a bank, had the boy educated in a school at Peckham, after which he attended lectures at University College. At the age of 20 he traveled on the Continent and resided for some time in Italy, where he made diligent study of its mediæval history. In 1846 he married Elizabeth Barrett, and settled with her in Florence, where they remained for nearly 15 years. Recognition of his literary fame, which came slowly, was made in 1867, when he was elected an honorary fellow of Baliol, an M. A. of Oxford, and later an LL. D. of Cambridge. He died in Venice, Dec. 12, 1889. His body was taken from Venice to England, where, in national recognition of his genius, it was buried in Westminster Abbey between Cowley and Chaucer.

Brownlow, William Gannaway ("PARSON BROWNLOW"), an American politician, journalist, and author, born in Wythe county, Va., Aug. 29, 1805. During his early career he was an itinerant preacher, editor, and lecturer. He was a Union champion during the Civil War, and was banished from the Confederate lines on that ground. In 1865 he was elected Governor of Tennessee, and was re-elected in 1867. He was United States Senator from 1869 to 1875. He died in Knoxville, Tenn., April 29, 1877.

Brown-Séquard, Charles Edouard, Franco-American physiologist and physician, was born in Mauritius in 1818, his father being a sea captain from Philadelphia, who married on the island a lady named Sequard. The son studied in Paris, and graduated M. D. in 1846. He devoted himself mainly to physiological research, and received numerous prizes, French and British, for the results of valuable experiments on blood, muscular irritability, animal heat, the spinal cord, and the nervous system. In 1864 he became Professor of Physiology at Harvard, but in 1869 returned to Paris as Professor of Pathology in the School of Medicine. In 1873 he became a medical practitioner in New York, treating especially diseases of the nervous system; and in 1878 he succeeded Claude Bernard as Professor of Experimental Medicine at the Collége de France. He died in Paris, April 1, 1894.

Brownson, Orestes Augustus, an American author; born in Stockbridge, Vt., Sept. 16, 1803; died in Detroit, Mich., April 17, 1876.

Brownsville, city, port of entry, and county-seat of Cameron Co., Tex.; on the Rio Grande and the Rio Grande railroad, opposite Matamoras, Mexico. In the suburbs is Fort Brown, a garrisoned United States post. In May, 1840, Brownsville was occupied and fortified by a small body of United States troops, who maintained their position in the face of a heavy bombardment that lasted for 160 hours; and in November, 1863, it was taken from the Confederates by a Federal army under General Banks. Pop. (1910) 10,517.

Brown University, a co-educational institution in Providence, R. I.; organized in Warren in 1764 as Rhode Island College; removed to Providence in 1770, and renamed in honor of Nicholas Brown in 1804. It has always been affiliated with the Baptist Church, but its management is non-sectarian.

Brozik, Vacslav, a Bohemian artist, born in Pilsen in 1852. His picture, "Columbus at the Court of Isabella," was presented to the city of New York by Morris K. Jesup, and is in the Metropolitan Museum. He is a pupil of Pilaty and Munkacsy, and is considered the foremost historical painter living.

Bruce, Catherine Wolfe, an American patron of science, born in New York city. She was a cousin of Catherine Lorillard Wolfe, from whom she inherited a fortune, which she used in furthering astronomical study at Harvard. She gave $50,000 to the Harvard Observatory in 1888. The Bruce Memorial Telescope at Arequipa, Peru, was her gift. In 1897 she established a gold medal fund for the Astronomical Society of the Pacific. She died in New York, March 13, 1900.

Bruce, Edward, a brother of Robert I., who, after distinguishing himself in the Scottish War of Independence, crossed in 1315 to Ireland to aid the native septs against the English. After many successes he

was crowned King of Ireland at Carrickfergus, but fell in battle near Dundalk in 1318.

Bruce, James, an African traveler, born in Stirling, Dec. 14, 1730. In 1768 he set out for Cairo, navigated the Nile to Syene, crossed the desert to the Red Sea, passed some months in Arabia Felix, and reached Gondar, the capital of Abyssinia, in 1770. In that country he ingratiated himself with the sovereign and other influential persons, and in the same year succeeded in reaching the sources of the Abai, then considered the main stream of the Nile. Bruce lost his life by an accident, April 27, 1894.

Bruce, Robert, the greatest of the Kings of Scotland, born in 1274. In 1296, as Earl of Carrick, he swore fealty to Edward I., and in 1297 fought on the English side against Wallace. He then joined the Scottish army, but in the same year returned to his allegiance to Edward until 1298, when he again joined the National party, and became in 1299 one of the four regents of the kingdom. In the three final campaigns, however, he resumed fidelity to Edward, and resided for some time at his court; but, learning that the King meditated putting him to death on information given by the traitor Comyn, he fled, in February, 1306, to Scotland, stabbed Comyn in a quarrel at Dumfries, assembled his vassals at Lochmaben Castle, and claimed the crown, which he received at Scone, March 27. Being twice defeated, he dismissed his troops, retired to Rathlin Island, and was supposed to be dead, when, in the spring of 1307, he landed on the Carrick coast, defeated the Earl of Pembroke at Loudon Hill, and in two years had wrested nearly the whole country from the English. He then in successive years advanced into England, laying waste the country, and on June 24, 1314, defeated at Bannockburn the English forces advancing under Edward II. to the relief of the garrison at Stirling. In 1316 he went to Ireland to the aid of his brother Edward, and, on his return in 1318, in retaliation for inroads made during his absence, he took Berwick and harried Northumberland and Yorkshire. Hostilities continued until the defeat of Edward near Byland Abbey in 1323, and though in that year a truce was concluded for 13 years, it was speedily broken. Not until March 4, 1328, was the treaty concluded by which the independence of Scotland was fully recognized. Bruce did not long survive the completion of his work, dying at Cardross Castle on June 7, 1329.

Bruce, Wallace, an American poet, born in Hillsdale, N. Y., Nov. 10, 1844; graduated at Yale College in 1867; and was United States Consul at Edinburgh, Scotland, in 1889–1893.

Bruges, a city of Belgium, capital of West Flanders, at the junction of the canals from Ghent, Ostend, and L'Ecluse, 7 miles from the North Sea, and 60 miles N. W. of Brussels. The city has a circumference of nearly 4½ miles, and is entered by six gates. Many large and noble ancient mansions and spacious public edifices present their pointed gables to the streets, and afford interesting specimens of the ornamental Gothic architecture of the Middle Ages. Among the most remarkable public edifices are the Cathedral of Notre Dame (Onser Vrouw), the old Gothic Hospital of St. John, and the elegant church of St. Saviour. In the great square is a lofty Gothic tower or belfry, the most beautiful in Europe, and its chimes are harmonious. In this tower there are 48 bells, some weighing six tons; they are played upon every quarter of an hour by means of an immense copper cylinder communicating with the clock, and weighing about nine tons. Its surface is pierced by 30,500 square holes, so that an infinite variety of airs may be set upon it, by merely shifting the iron pegs that lift the hammers. Pop. (1900) 52,867.

Bruhns, Carl Christian, a remarkable self-taught astronomer, born in Plon, Holstein, Nov. 22, 1830, the son of a locksmith; died in Leipsic, July 25, 1881.

Bruise, or **Contusion,** signifies an injury inflicted by a blow or sudden pressure, in which the skin is not wounded, and no bone is broken or dislocated. Both terms, and especially the latter, are employed in surgery to include all such injuries in their widest range, from a black eye to a

thoroughly crushed mass of muscle. In the slighter forms of this injury, as in ordinary simple bruises, there is no tearing, but only a concussion of the textures, the utmost damage done being the rupture of a few small blood vessels, which occasions the discoloration that is always observed in these cases.

Brumaire, the second month of the year in the French Revolutionary calendar. It commenced on the 23d of October, and ended on the 21st of November, thus comprising 30 days. It received its name from the fogs that usually prevail about this time. The 18th of Brumaire, VIII. year (Nov. 9, 1799), is celebrated for the overthrow of the Directory and the establishment of the sway of Napoleon.

Brummel, George Bryan, (the sometime famous BEAU BRUMMEL), born in London, June 7, 1778. He was educated at Eton, and there formed intimacies with the younger nobility of the day. On his father's death, inheriting a fortune of about $150,000, he began his career as a man of fashion, and became the intimate associate of the Prince of Wales (afterward George IV.). He it was who inaugurated the reign of dandyism, and for a period of 20 years exercised almost despotic sway over English society in the matter of dress. His fortune being soon swallowed up, he maintained his position in society by his success at play, and the indescribable charm of his manner and conversation. After a rupture with the Prince, his influence gradually declined; and oppressed by debt, and the falling off of former friends, he retired to Calais, and afterward to Caen, where he was appointed British consul, and where he died, March 30, 1840.

Brunai, or **Brunei,** a British Protectorate in the N. W. of Borneo, till 1888 nominally an independent Mohammedan territory, whose sultan was formerly overlord of the whole island. Area, about 18,000 square miles; pop. est. at 125,000, divided into trade castes. The capital, Brunai, on a river of the same name, is a miserable, dirty town, built on piles, with some 30,000 inhabitants, who trade with Singapore.

Brunel, Sir Marc Isambard, a French civil engineer, born in Hacqueville, near Rouen, April 25, 1769. He entered the mercantile marine, made several voyages to the West Indies, and, when the French Revolution of 1793 drove him from his country, he went to New York, with the resolution of endeavoring to turn his engineering skill to some account. Accordingly, he, conjointly with another, surveyed the ground for the canal which now connects the Hudson river at Albany with Lake Champlain. In 1825 he began excavating for the Thames tunnel. This extraordinary work was opened to the public in 1843; but previously, in 1841, the honor of knighthood had been conferred upon him. He died in London, Dec. 12, 1849.

Brunel, Isambard Kingdom, son of the above, born in Portsmouth, England, April 9, 1806; was educated at the College of Henri IV., at Caen, France, and began the study of civil engineering under his father. He was the resident engineer of the Thames tunnel, and the designer and civil engineer of the "Great Western," the first steamship built to cross the Atlantic. He was also the constructor of the magnificent iron steamship, the "Great Eastern," which was built at Millwall. He died in Westminster, Sept. 15, 1859.

Brunetiere, Ferdinand, a French critic; born in Toulon, July 19, 1849. He was critic of the "Revue des Deux Mondes"; became an Academician 1893; and 1897 lectured in the U. S. He inclined to the idealist as opposed to the naturalist school, and denounced literary fads. He died Dec. 9, 1906.

Brunn, Heinrich, a German archæologist; born in Worlitz, Anhalt, Jan. 23, 1822; became Professor of Archæology at Munich; and published several works of high repute among scholars. He died in Munich, July 23, 1894.

Brunn, an Austrian city, capital of Moravia, on the railway from Vienna to Prague, nearly encircled by the rivers Schwarzawa and Zwittawa. It is the center of Moravian commerce, a great part of which is carried on by fairs. Near it is the fortress of Spiel-

berg, in which Trenck and Silvio Pellico were confined. Pop. (1891) 95,342; (1900) 108,900.

Bruno, Giordano, an Italian philosopher, one of the boldest and most original thinkers of his age, born in Nola, about 1550. He became a Dominican monk, but his religious doubts, and his censures of the monastic orders, compelled him to quit his monastery and Italy. He embraced the doctrines of Calvin at Geneva, but doubt and free discussion not being in favor there, he went, after two years' stay, to Paris. He gave lectures on philosophy there, and, by his avowed opposition to the scholastic system, made himself many bitter enemies. He next spent two years in England, and became the friend of Sir Philip Sidney. In 1585 he went again to Paris and renewed his public lectures. After visiting and teaching in various towns in Germany, he returned, in 1592, to Padua, and went afterward to Venice, where he was, in 1598, arrested by the Inquisition and sent to Rome. He lay in prison two years, and on Feb. 17, 1600, was burned as a heretic.

Bruno the Great, one of the most eminent men of his time, born about 925, the third son of Henry the Fowler. He became archbishop of Cologne, and chancellor of the Empire under his brother, Otto I., and afterward, as a reward for his services, Duke of Lorraine. He strove to reform the monasteries and advance the love of learning among the clergy. He died in Rheims, Oct. 11, 965.

Brunswick, Duchy of, in Germany, consists of five detached portions of territory on the rivers Weser, Seine, Ocker and Aller. It occupies part of the vast plain which stretches from the foot of the Hartz Mountains and their continuations (the Solling) to the German Ocean and the Baltic, with a portion of the rise of those chains on the N. side. The largest portion contains the districts of Wolfenbuttel and Schoningen, in which the cities of Brunswick and Wolfenbuttel, and the towns of Konigsbutter and Helmstadt, are situated. Two small detached portions of territory, viz., the circles of Thedinghausen on the Weser, and that of Badenburg, are inclosed by the Hanoverian territory, and form part, the former of the Weser district, the latter of the Seine district. Finally, the detached circle of Kalvorde, inclosed within the Prussian Province of Saxony, belongs to the district of Schoningen. The duchy has an area of 1,526 square miles. The inhabitants are mostly engaged in agricultural and mining pursuits. Iron is the chief produce of the mines worked in the three districts of the Hartz, Weser and Blankenburg. Nearly the whole of the inhabitants are members of the Lutheran Church. Pop. (1900) 464,333. Brunswick, the capital, is on the Ocker, in a level and fertile district. A fine avenue of linden trees leads to the ducal palace, which, destroyed by fire in 1830 and 1865, was rebuilt in 1869. Pop. (1900) 128,226.

Brunswick, Family of, a distinguished family founded by Albert Azo II., Marquis of Reggio and Modena, a descendant, by the female line, of Charlemagne. In 1047 he married Cunigunda, heiress of the Counts of Altorf, thus uniting the two houses of Este and Guelph. His son Guelph, was created Duke of Bavaria in 1071, and married Judith of Flanders, a descendant of Alfred of England. From Guelph was descended George Louis, son of Ernest Augustus and Sophia, granddaughter of James I. of England, who succeeded his father as Elector of Hanover in 1698, and was called to the throne of Great Britain in 1714 as George I.

Brunswick, Friedrich Wilhelm, Duke of, fourth and youngest son of Duke Karl Wilhelm Ferdinand of Brunswick, born in 1771. During the war against France in 1792 and subsequently, he fought in the Prussian armies, was twice wounded, and once made prisoner with Blucher at Lubeck. For the campaign of 1809 he raised a free corps in Bohemia, but was compelled to embark his troops for England, where he was received with enthusiasm. His corps immediately entered the British service, and was afterward employed in Portugal and Spain, returning to his hereditary dominions, 1813. The events of 1815 called him again to arms, and he fell at Quatre Bras, 1815. Caroline, wife of George IV., was a sister of this prince.

Brunswick-Luneburg, Karl Wilhelm Ferdinand, Duke of; born in 1735. In service against the French he proved himself brave and resolute but unsuccessful. He was mortally wounded at the battle of Auerstadt, and closed his life in Ottensen, near Altona, Nov. 10, 1806.

Brush, Charles Francis, an American scientist; born in Euclid, near Cleveland, O., March 17, 1849. He was graduated at the University of Michigan, in 1869. He invented the modern arc system of electric lighting and founded the Brush Electric Company. He was decorated by the French government in 1881 for his achievements in electrical science. In 1891 he won a long contest in the Federal courts over the rights to the manufacture and sale of storage batteries; and in 1900 he was awarded the Rumford medal by the American Academy of Arts and Sciences.

Brush, George Jarvis, an American mineralogist; born in Brooklyn, N. Y., Dec. 15, 1831. He received a public school education and studied science at New Haven. He has been Professor of Mineralogy and a leading official of the Sheffield Scientific School since 1864. His writings on mineralogy are authoritative.

Brussels, the capital of Belgium; on the river Senne, communicates with Antwerp and the Baltic Sea by means of the Scheldt canal, and railroads connect it with Germany, France, and Holland, as well as with all the principal towns of Belgium. Pop. (1900) with suburbs, 561,782.

Brutus, Lucius Junius, a Roman hero; son of Marcus Junius and the daughter of the elder Tarquin; saved his life from the persecutions of Tarquin the Proud by feigning himself insane, on which account he received the surname Brutus (stupid). During a plague that broke out at Rome he accompanied the son of Tarquin to the oracle in Delphi. When Lucretia, the wife of Collatinus, plunged a dagger into her bosom that she might not outlive the insult which she had suffered from Sextus, the son of Tarquin, Brutus, being present, threw off his mask. He drew the dagger, all bloody, from the wound, and swore vengeance against the Tarquins, explaining to the astonished spectators the reason of his pretended imbecility, and persuading all who were present to take the same oath. The people submitted to his guidance, and he caused the gates to be shut, the inhabitants to be assembled, and the body to be publicly exposed. He then urged the banishment of the Tarquins. After this had been resolved on, Brutus proposed to abolish the regal dignity, and introduce a free government. It was then determined that two consuls should exercise supreme power for a year, and Junius Brutus and Tarquinius Collatinus were chosen for the first term. Tarquin, who had seen the gates shut against him, and found himself deserted by his army, sent ambassadors to Rome to demand a restoration of his private property, and, at the same time, to promise that he would make no attempt against the republic. His request was granted. The ambassadors, however, set on foot a conspiracy, and drew into it many young men, among whom were the two sons of Brutus and the nephews of Collatinus. But a slave named Vindex discovered the plot. The criminals were imprisoned, and the consuls caused the people the next morning to be called to a meeting. All were deeply shocked to see the sons of Brutus among the prisoners, and their father on the judgment seat to condemn them. Collatinus wept, and even the stern Valerius sat silent. But Brutus arose firmly, and, after the crime had been proved beyond a doubt, ordered the lictors to execute the law. Neither the entreaties of the people nor of his sons could alter his resolution. He witnessed the horrible spectacle without emotion, and did not leave the assembly till after the execution. He was called back, however, when Collatinus wished to save his guilty nephews. The people condemned them all, and chose Valerius consul in place of Collatinus. In the meantime, Tarquin, supported by Porsenna, collected an army and marched against Rome. The consuls advanced to meet him. Brutus led the cavalry, Aruns, son of Tarquin, commanded the body opposed to him. They pierced each other with their spears at the same moment, and both fell 509 B. C. The Romans came off conquerors, and Brutus was bur-

ied with great splendor. The women lamented him a whole year, as the avenger of the honor of their sex. The details of the story of Brutus, which may be regarded as a poetical legend, have been shown by Niebuhr to be irreconcilable with history.

Brutus, Marcus Junius, one of the most distinguished Romans at the close of the republican period; born of a plebeian family 85 B. C. He was at first an enemy of Pompey, who had slain his father in Galatia, but forgot his private enmity, and was reconciled to him when he undertook the defense of freedom. He did not, however, assume any public station, and, after the unfortunate battle of Pharsalia, surrendered himself to Cæsar, who received him generously, allowed him to withdraw from the war, made him in the following year governor of Cisalpine Gaul, and afterward conferred on him the government of Macedonia. Notwithstanding these benefits, Brutus allowed himself to be drawn into, and made the head of the conspiracy against Cæsar. He was led into the conspiracy by Cassius, who, impelled by hatred against Cæsar, sought, at first by writing, and then by means of his wife, Junia, sister of Brutus, to gain his favor; and when he thought him prepared for the proposal, disclosed to him verbally the plan of a conspiracy against Cæsar, who had now made himself master of the supreme power in the State. Brutus was induced to agree to the design, and his influence led many of the most distinguished Romans to embrace it also. Cæsar was assassinated in the senate house. In public speeches Brutus explained the reasons of this deed, but he could not appease the dissatisfaction of the people, and retired with his party to the capital. He soon after took courage, when the consul, P. Cornelius Dolabella, and the prætor, L. Cornelius Cinna, Cæsar's brother-in-law, declared themselves in his favor. But Antony, whom Brutus had generously spared, was reconciled to him only in appearance, and obtained his leave to read Cæsar's will to the people. By means of this instrument Antony succeeded in exciting the popular indignation against the murderers of Cæsar, and they were compelled to flee from Rome. Brutus went to Athens and endeavored to form a party there among the Roman nobility; he gained over, also, the troops in Macedonia. He then began to levy soldiers openly, which was the easier for him, as the remainder of Pompey's troops since the defeat of their general, had been roving about in Thessaly. Hortensius, the governor of Macedonia, aided him; and thus Brutus, master of all Greece and Macedonia, in a short time stood at the head of a powerful army. He went now to Asia and joined Cassius, whose efforts had been equally successful. In Rome, on the contrary, the triumvirs prevailed. All the conspirators had been condemned and the people had taken up arms against them.

Brutus and Cassius having finally with difficulty subdued the Lycians and Rhodians, returned to Europe to oppose the triumvirs. The army passed over the Hellespont, and 19 legions and 20,000 cavalry were assembled on the plains of Philippi, in Macedonia, whither also the triumvirs, Antony and Octavianus (afterward the Emperor Augustus), marched with their legions. Although Roman historians do not agree in their accounts of the battle of Philippi, this much at least seems certain, that Cassius was beaten by Antony; that Brutus fought with greater success against the division of the army commanded by Octavianus; that 20 days after he was induced, by the ardor of his soldiers, to renew the contest; and that he was this time totally defeated. He escaped with only a few friends, passed the night in a cave, and as he saw his cause irretrievably ruined, ordered Strato, one of his confidants, to kill him. Strato refused a long time to perform the command; but, seeing Brutus resolved, he turned away his face, and held his sword, while Brutus fell upon it, and died in 42 B. C.

Bryan, William Jennings, an American political leader, born in Salem, Ill., March 19, 1860. He was graduated at Illinois College in 1881, preparing subsequently for the bar at Union College, Chicago. In 1887 he removed to Lincoln, Neb., and was elected to Congress in 1890, and again in 1892. Four years later he was nominated for the presidency of the

United States by the Democratic National Convention at Chicago. He advocated the free and unlimited coinage of silver by the United States at a ratio of 16 to 1, and was defeated in the presidential campaign. He was Col. of a regt. of volunteers during the Spanish War. In 1900, he was again defeated for the presidency by W. McKinley. He founded "The Commoner," a weekly political periodical which he edits. In 1905-06 he made a tour of the world, and was received at foreign courts with distinction. In 1908 he was defeated a third time for the Presidency, by William H. Taft, and in 1910 lost the party leadership in his own State, both in convention and at the primaries.

Bryant, William Cullen, an American poet; born Nov. 3, 1794, in Cummington, Mass. His father, a man of great literary culture, practised as a physician. He prepared, when he was but 14, a collection of poems, which were published in Boston in 1809. In that volume appeared "The Embargo," the only poem dealing with the politics of the day he ever wrote. In the following year Bryant entered Williams College as a student of law, but left without taking a degree in 1815, when he was admitted to the bar. In that year he became a contributor to the "North American Review," in which appeared the following year his "Thanatopsis," a poem in blank verse, which received much laudatory criticism. Six years later he published a second collection of poems which brought him into real fame. He definitely abandoned law for literature in 1825, and went to New York, where he founded the "New York Review," and a year after became the editor of the "Evening Post," an old established paper with which he was connected till his death. A complete edition of his poems up to 1855 was published in that year, and in 1863 appeared a small volume entitled "Thirty Poems." His last works of importance are his translations of the "Iliad" (1870) and the "Odyssey" (1872), translations which many American critics rank above any that had hitherto appeared in the English language. Early in 1878 appeared "The Flood of Years," his last poem of any great length. On the occasion of uncovering a statue to Mazzini (May 30, 1878) he had to stand uncovered for about an hour under a burning sun. On his way home he met with an accident which was followed by concussion of the brain, and on June 12 he expired.

Bryce, George, a Canadian educator and clergyman; born in Mount Pleasant, Ontario, April 22, 1844. He was graduated at the University of Toronto in 1867, and was ordained to the Presbyterian ministry in 1871. His great work was the foundation of Manitoba College and in assisting the foundation of Manitoba University.

Bryce, James, an Irish historian, born in Belfast, May 10, 1838. After graduating at Oxford in 1862, he studied at Heidelberg, and subsequently practised law in London. From 1870 till 1893 he was Regius Professor of Civil Law in Oxford, and has had a distinguished political career. In Dec., 1906, he was appointed British ambassador to the United States.

Bryce, Lloyd, an American editor and novelist, born in Long Island, N. Y., in 1852. He was editor of the "North American Review" from 1889 to 1896.

Bryn Mawr College, an educational institution for women, at Bryn Mawr, Pa.; founded in 1880 by Joseph Taylor. Its standard of admission is very high; its system of undergraduate studies combines required courses and varied elective groups.

Bryophyllum, a genus of plants belonging to the houseleeks. Its native country is the East Indies, whence it has been carried to other places. In Bermuda, where it is naturalized and grows abundantly, it is called life plant.

Bubalis, a genus in the antelope division of hollow horned, even toed ruminants, not to be confused with Buffalo. The species of bubalis are among the more oxlike antelopes, and one of them is supposed to be the bubalus of the ancients. In this genus the head is elongated, the snout broad, the horns twisted and present in both sexes, the tear pits small, the back sloping off behind, the teats two in number. The bubaline of the North African deserts is a handsome animal of a reddish brown color, standing

about 5 feet high at the shoulder, living in herds, and readily tamed. It is figured on Egyptian monuments. The hartebeest is found in the S., is perhaps slightly larger, has a general gray brown color (black on the outside of the legs and on middle of forehead, with large white spots on haunches), and is at home on the mountains. The sassaby, the bastard hartebeest of the Cape Colonists, is slightly smaller, and is differently colored. The bontebok is a smaller and more beautifully colored form of the S. interior, where another species, the violet colored blesbok, is also abundant.

Bubonic Plague, a disease supposed to be identical with the plague known as the Black Death, which had its origin in China, and made its first appearance in Europe 543 A. D., at Constantinople. It derives its modern name from the fact that it attacks the lymphatic glands in the neck, armpits, groins and other parts of the body. The swollen parts are extremely sensitive to the touch, the patient suffers from headache, vertigo, high fever, vomiting and great prostration. Another feature is the appearance of purple spots and a mottling of the skin. In severe cases death generally ensues in 48 hours, and, at best, recovery is slow. At the Hoagland laboratory in Brooklyn, N. Y., extensive experiments have been made, both in the culture of the germs and in an anti-toxin. The disease has been called "the poor's plague," from the fact that it first attacks the half starved masses who congregate in the slums of the cities. This was the case in Bombay, where so fatal were its ravages that a panic ensued and more than 450,000 people, one-half the population, left the city. The first authentic description of the bubonic plague is contained in the writings of Rufus of Ephesus, who described the disease as having existed in Northern Africa during the 3d or 4th century B. C. He presented the testimony of physicians of that period to corroborate his arguments. Since that time the disease has been variously described by writers under the name of Levantine, Oriental and Bubonic Plague and the black plague, or black death. These designations are more or less open to criticism and lack scientific foundation. In the reign of Justinian, 542 A. D., the disease appeared in Egypt, and within a year extended to Constantinople, where it is said to have caused the death of 10,000 persons in one day. In 1352 the plague spread through the whole of Europe and nearly one-fourth of the population died. It is estimated by Hecker that during this reign of terror, out of 2,000,000 inhabitants of Norway, but 300,000 survived. It was estimated by Pope Clement VI. that the mortality from black death for the entire world was 40,000,000. This outbreak lasted about 20 years. During the great plague of London, in 1665, there were 63,596 deaths out of a population of 460,000. It was believed the infection was introduced by bales of merchandise from the Levant. The sanitary condition of London, at the time, was notoriously bad. It is a significant fact that those who lived out of town and on barges and ships on the Thames did not contract the disease. In 1903 the disease was reported in Southern Russia and other eastern regions, and great care was exercised to keep it out of the United States.

Buccaneer, an order of men, not quite pirates, yet with decidedly piratical tendencies, who for nearly 200 years infested the Spanish main and the adjacent regions. A bull of Pope Alexander VI., issued in 1493, having granted to Spain all lands which might be discovered W. of the Azores, the Spaniards thought that they possessed a monopoly of all countries in the New World, and that they had a right to seize, and even put to death, all interlopers into their wide domain. The association of buccaneers began about 1524, and continued till after the English revolution of 1688, when the French attacked the English in the West Indies, and the buccaneers of the two countries, who had hitherto been friends, took different sides, and were separated forever. Thus weakened, they began to be suppressed between 1697 and 1701, and soon afterward ceased to exist, pirates of the normal type, to a certain extent, taking their place. The buccaneers were also called "filibustiers," or "filibusters" — term which was revived in connection with the adventures of "General"

Walker, who sought to establish himself as a ruler in Central America.

Buccleugh, the title (now a dukedom) of one of the oldest families in Scotland, tracing descent from Sir Richard le Scott in the reign of Alexander III.

Bucentaur, a mythical monster, half man and half ox. The splendid galley in which the Doge of Venice annually wedded the Adriatic bore this name, doubtless because of the figure of a bucentaur on her bow.

Bucephalus, the celebrated horse of Alexander the Great, whose head resembled that of a bull, whence his name. Alexander was the only one who could mount him. In an engagement in Asia, where he received a heavy wound, he immediately hastened out of the battle, and dropped dead as soon as he had set down the King in a safe place. Alexander built on the river Hydaspes, in India, a city which he called after his name.

Bucer, Martin, a Protestant reformer; born in Schlestadt, Alsace, in 1491. In 1521 he left the Dominican Order, and became a convert to Lutheranism. He was at first preacher at the court of Frederick, the Elector of the Palatinate; afterward in Strasburg; and at the same time professor in the university there for 20 years. He died in Cambridge in 1551. In 1557 Queen Mary caused his bones to be burned, to show her detestation of Protestantism.

Buchanan, Andrews Hays, an American educator; born in Washington Co., Ark., June 28, 1828; was graduated at Cumberland University in 1853; and took a special course in civil engineering and mathematics in Lincoln University; taught civil engineering in 1854–1861; was military topographical engineer in the Confederate army during the Civil War; and became Professor of Mathematics and Civil Engineering in Cumberland University in 1869. He was the author of "Plane and Spherical Trigonometry"; etc.

Buchanan, James, an American statesman, 15th President of the United States, born near Mercersburg, Pa., April 23, 1791; graduated at Dickinson College in 1809, admitted to the bar in 1812. He supported the War of 1812, although affiliated with the Federalist Party. In 1820 he was elected to Congress, serving successive terms by re-election for 10 years, where he made some reputation in the advocacy of bills for reorganizing the courts and judiciary. In 1828 he supported Andrew Jackson for the Presidency, who, in turn, appointed him Minister to Russia, where he distinguished himself by arranging an important commercial treaty. In 1834, he entered the United States Senate, serving there 12 years, where he defended the spoils system instituted by Jackson, and declared against the right or power of the Government to interfere with slavery in the States. He was appointed Secretary of State by President Polk, after which service he was in retirement for four years. Under President Pierce he was sent in 1853 as Minister to England, where his advocacy of the annexation of Cuba by the United States led to his nomination to the Presidency in 1856. His cabinet contained men who supported the secession of South Carolina, and eventually joined the Confederacy. He announced in a message (1860) that the President had neither the right nor the constitutional power to prevent a State from seceding. His unwillingness to take decisive action enabled the seceding States to arm and prepare for war before the Government did anything to prevent. After he retired, however, he supported the Union cause. He died in Lancaster, Pa., June 1, 1868.

Buchanan, Robert Williams, English poet, novelist and playwright; born in Warwickshire, Aug. 18, 1841; died in London, June 10, 1901.

Bucharest, the capital of the former principality of Wallachia and of the present kingdom of Rumania, stands 265 feet above sea level, in the fertile but treeless plain of the small, sluggish Dambovitza. A strange meeting point of East and West, the town as a whole is but meanly built, but the streets are mostly paved and lighted with gas and electricity. An elaborate system of fortification was undertaken in 1885. There are some handsome hotels; and the metal plated cupolas of the innumerable churches gives to the place a picturesque aspect. Bucharest is the entre-

pot for the trade between Austria and the Balkan Peninsula, the chief articles of commerce being textile fabrics, grain, hides, metal, coal, timber, and cattle. Its manufactures are unimportant, and the workmen are chiefly Hungarians and Germans. Bucharest has been several times besieged; and between 1793 and 1812 suffered twice from earthquakes, twice from inundations, once from fire, and twice from pestilence. Pop. (1900) 282,071.

Buchner, Ludwig, a German physician and materialist philosopher, born at Darmstadt, 1824; died 1899. He studied at Giessen, Strasburg, Wurzburg and Vienna; became a lecturer at Tubingen University; and, in 1855, published "Kraft und Stoff" ("Force and Matter"), in which he attempted to establish a materialistic view of the universe. Died in 1899.

Buchner, Max, a German traveler and scientist, born in Hamburg, April 25, 1846. In 1878 he bore presents from the Emperor to Muatiamvo, in the Kingdom of Lunda, in Equatorial Africa. After several vain attempts to break through toward the N., he returned to the coast. In 1884 he accompanied Nachtigal in founding the colonies of Togo and Kamerun, in West Africa, where he acted temporarily as representative of the German Empire.

Buchtel College, a co-educational institution in Akron, O.; founded in 1871, under the auspices of the Universalist Church.

Buck, a name sometimes distinctively appropriated to the adult male of the fallow deer, the female of which is a doe. The term is often also applied to the male of other species of deer, as of the roebuck, although never to that of the red deer, which, when mature, is a stag or a hart.

Buck, Dudley, an American organist, composer, and author, born in Hartford, Conn., March 10, 1839. He was widely known through his instrumental and vocal music, and besides a number of cantatas, he wrote several books on musical topics. D. 1909.

Buckbean, the English name of menyanthes, a genus of plants belonging to the gentian worts. An infusion of its leaves is bitter. In Sweden two ounces of the leaves are substituted for a pound of hops. In Lapland the roots are occasionally powdered and eaten.

Buckeye, the American horse chestnut tree. The term is also applied to the State of Ohio.

Buckingham, George Villiers, Duke of, favorite of James I. and Charles I., of England, born in 1592, his father being George Villiers, Knight. He was stabbed on Aug. 24, 1628, by John Felton, an ex-lieutenant who had been disappointed in being promoted.

Buckingham, James Silk, an English traveler, writer, and lecturer, born near Falmouth, Aug. 25, 1786. After trying several professions, and wandering over a great part of the world, he went to London, where he established the "Athenæum," well known as a literary journal. Subsequently he made a tour of three years in the United States. In 1843 he became secretary to the British and Foreign Institute. He also published volumes on his Continental tours and an autobiography. He died in London, June 30, 1855.

Buckingham, William Alfred, an American statesman, born in Lebanon, Conn., May 28, 1804; was for nine years Governor of Connecticut (1858–1866); called the "War Governor" for his zeal in furnishing troops in the Civil War; and was United States Senator from 1869 till his death. He was active in the temperance cause, and a patron of Yale College. He died in Norwich, Conn., Feb. 3, 1875.

Buckingham Palace, a royal palace in London, facing St. James' Park, and forming one of the residences of Queen Victoria.

Buckland, Cyrus, an American inventor, born in Springfield, Mass., Aug. 10, 1799; after assisting in building the machinery for the first cotton mills erected in Chicopee Falls, became, in 1828, the pattern maker in the United States armory, in Springfield. He remained here for 28 years, becoming master-mechanic. He designed machinery and tools for the manufacture of firearms; remodeled old weapons and designed new ones; perfected a lathe for turning out gun stocks; invented machines to bore and turn gun barrels and for rifling mus-

kets, and many other novelties in the manufacture of firearms and ordnance. Much of his machinery was adopted by foreign governments. Having received nothing for his labor at the armory, excepting his salary, Congress voted him $10,000 when ill-health compelled him to resign. He died in Springfield, Feb. 26, 1891.

Buckland, Francis Trevelyan, an English naturalist; born in Oxford, Dec. 17, 1826. His preferences were for practical science, and, after retiring from his place as surgeon to the 2d Life Guards, he founded the journal, "Land and Water," of which he was editor. He was an authority on fish culture, and as such was consulted by foreign governments. He was a resolute opponent of Darwinism. He died Dec. 19, 1880.

Buckland, William, an English geologist, born in Tiverton, Devonshire, March 12, 1784. In 1845 he was made Dean of Westminster; but, under his great and continuous labors to benefit others, his mental faculties gave way seven years before his death, which took place Aug. 14, 1856.

Buckle, Henry Thomas, an English historian, born in Kent, Nov. 24, 1822. His chief work, a philosophic "History of Civilization," of which only two volumes (1858 and 1861) were completed, was characterized by much novel and suggestive thought, and by the bold co-ordination of a vast store of materials drawn from the most varied sources. He died, while traveling, at Damascus, March 29, 1862.

Buckles, metal instruments, consisting of a rim and tongue, used for fastening straps or bands in dress, harness, etc. They were formerly used on shoes, but are now supplanted by strings.

Buckley, James Monroe, an American religious editor, born in Rahway, N. J., Dec. 16, 1836. He studied theology at Exeter and joined the Methodist Episcopal Church. Since 1881 he has been editor of the New York "Christian Advocate." He has written "Travels in Three Continents," "Oats, or Wild Oats," etc.

Bucknell University, a co-educational institution in Lewisburg, Pa.; oragnized in 1846, under the auspices of the Baptist Church.

Buckner, Simon Bolivar, an American soldier and politician, born in Kentucky in 1823. He was graduated at West Point in 1840, and served in the Mexican War. He rose to distinction in the Confederate army during the Civil War, attaining the rank of Lieutenant-General. He was one of the pall bearers at Gen. Grant's funeral in 1885, by the personal selection of the ex-President, who had been warmly attached to him for many years. In 1896 he was nominated for Vice-President by the Gold Democrats, having previously served a term as Governor of Kentucky.

Buckram, a coarse textile fabric stiffened with glue and used in garments to give them or keep them in the form intended.

Buckshot, a kind of leaden shot larger than swan-shot. About 160 or 170 of them weigh a pound. They are especially designed to be used in hunting large game.

Buckskin, a kind of soft leather, generally yellow or grayish in color, prepared originally by treating deerskins in a particular way, but now in general made from sheepskins. This may be done by oil, or by a second method, in which the skins are grained, brained and smoked.

Buckthorn, the English name of a genus of plants. The berries of the common species are black, nauseous, and, as the specific name rhamnus catharticus imports, highly cathartic; they afford a yellow dye when unripe, as the bark of the shrub does a green one. They are sold as French berries. The alder buckthorn, again, has dark purple purgative berries, which, in an unripe state, dye wool green and yellow, and when ripe bluish gray, blue, and green. The bark dyes yellow, and, with iron, black. Of the foreign species, the berries of the rock buckthorn are used to dye the Maroquin, or Morocco leather, yellow, while the leaves of the tea buckthorn are used by poor people in China as a substitute for tea. The species best kown to the pharmacopœia of this country is the cascara sagrada.

Buckwheat, or **Brank,** a plant with branched herbaceous stem, somewhat arrow-shaped leaves and purplish white flowers, growing to the height

of about 30 inches, and bearing a small triangular grain of a brownish-black without and white within. The stalk is round and hollow, generally green, but sometimes tinged with red. Buckwheat was first taken to Europe from Asia by the Crusaders, and hence in France is often called Saracen corn. It is cultivated in China and other Eastern countries as a bread corn. In the United States it is very extensively used throughout the winter in cakes, which are cooked upon a gridiron.

Budapest, the official name of the united towns of Buda or Ofen and Pest or Pesth, the one on the right, the other on the left of the Danube, forming the capital of Hungary, the seat of the Hungarian Parliament and supreme courts. Buda, which is the smaller of the two, and lies on the W. bank of the river (here flowing S.), consists of the fortified Upper Town on a hill, the Lower Town or Water Town at the foot of the hill, and several other quarters, including Old Buda farther up the river.

Budapest contains the most important of the three universities of Hungary, attended by about 4,500 students and having over 220 professors, lecturers, etc. Another important educational institution is the technical high schools, with 60 teachers and 1,100 to 1,200 students, and a library of 60,000 volumes. In commerce and industry Budapest ranks next to Vienna in the empire. Its chief manufactures are machinery, gold, silver, copper, and iron wares, chemical, textile goods, leather, tobacco, etc. A large trade is done in grain, wine, wool, cattle, etc. At Budapest are the largest electrical works in all Europe. Engineers employed there have brought to perfection the science of applying electricity to motors. They constructed there the first successful underground trolley lines. Their ideas have been adopted in the construction of electric roads all over the world. In 1799 the joint population of the two towns was little more than 50,000; in 1890 it was 506,384; in 1900, 732,322.

Budaun, a town of India, Northwest Provinces. There is a handsome mosque, American mission, etc. Pop. 33,680. The district of Budaun has an area of 2,000 square miles. Pop. 906,451.

Buddha, or **The Buddha,** (that is "the enlightened"), the sacred name of the founder of Buddhism, who would appear (according to the judgment of those scholars who have given most attention to this point) to have lived in the 5th century B. C.

Buddhism, the system of faith introduced or reformed by Buddha. In its origin Buddhism was a reaction against the caste pretensions of the Brahmins and other Aryan invaders of India, and was, therefore, eminently fitted to become, as it for a long time was, the religion of the Turanians. Buddhism was dominant in India for about 1,000 years after its establishment by Asoka. Then, having become corrupt and its vitality having decayed, reviving Brahminism prevailed over it, and all but extinguished it on the Indian continent, though a modification of it, Jainism, still exists in Marwad and many other parts. It has all along held its own, however, in Ceylon. On losing Continental India, its missionaries transferred their efforts to China, which they converted, and which still remains Buddhist. The religion of Gautama flourishes also in Tibet, Burma and Japan, and is the great Turanian faith of the modern as of the ancient world.

Budding, the art of multiplying plants by causing the leaf bud of one species or variety to grow upon the branch of another.

Bude Light, (from Bude, in Cornwall, England, where Mr. Gurney, the inventor of the light, lived), an oil or gas burner supplied with a jet of oxygen gas; the flame is very brilliant.

Budget, the annual statement relative to the finances of a country, made by the proper financial functionary, in which is presented a balance sheet of the actual income and expenditure of the past year, and an estimate of the income and expenditure for the coming year, together with a statement of the mode of taxation proposed to meet such expenditure.

Buel, Clarence Clough, an American editor and author, born at Laona, Chautauqua county, N. Y., July 29, 1850. He was connected

with the New York "Tribune" from 1875 to 1881, when he joined the staff of the "Century Magazine;" and, in 1883, in conjunction with Robert Underwood Johnson, he began the editing of the celebrated "Century War Articles," which were afterward expanded into the notable "Battles and Leaders of the Civil War" (1887).

Buell, Don Carlos, an American military officer, born near Lowell, O., March 23, 1818. He was graduated at West Point in 1841, and served in the Mexican War. When the Civil War broke out he was adjutant-general of the regular army, and was made a Brigadier-General of Volunteers and attached to the Army of the Potomac. In November, 1861, he succeeded Gen. W. T. Sherman in command of the Department of the Ohio. He resigned from the volunteer service on May 23, 1864, and on June 1, following, also resigned his commission in the regular army. He died near Rockport, Ky., Nov. 19, 1898.

Buenaventura, a town on the Pacific coast of the Republic of Colombia. It has a hot, sickly climate, but is the port for the healthful and rich Cauca valley. Pop. 5,000.

Buena Vista, a village of Mexico, 7 miles S. of Saltillo, where, on Feb. 22–23, 1847, some 5,000 United States troops, under Taylor, defeated 20,000 Mexicans under Santa Ana.

Buen-Ayre, French BONAIRE, a West Indian island, 60 miles from the coast of Venezuela, and 30 E. of Curaçao, like which it belongs to the Dutch. It produces timber, cattle, cochineal, and salt. Area, 127 square miles; pop. 4,043.

Buendia, Juan, a Peruvian general, born in Lima in 1814. He was put in command of the Army of the South in the Chilian War in 1879, and attacked 10,000 Chilians on the heights of San Francisco (Nov. 8), where he was defeated with terrible loss. He was court-martialed, but freed from blame and afterward served in the defense of Lima.

Buenos Ayres, a city of South America, capital of the Argentine Republic, on the S. W. side of the La Plata, 150 miles from its mouth. It was founded in 1535 by Don Pedro de Mendoza, and is built with great regularity, the streets uniformly crossing each other at right angles. It contains the palace of the President, the House of Representatives, a Town Hall, a number of hospitals and asylums, a cathedral, several monasteries, nunneries, and Catholic and Protestant churches; several theaters, a university and a custom house. The university, founded in 1821, is attended by about 800 students. There are also a medical school, normal and other schools, besides literary and scientific societies. Since 1889 the city has undergone notable changes in the way of local improvement. The most important is the creation of a new system of docks, involving the construction of five long wet docks and great basins. The basins have ample area for the largest ocean steamships, and along their walls are hydraulic elevators by which every hatchway of a vessel may be worked at once. Buenos Ayres is one of the leading commercial centers of South America, its exports and imports together annually amounting to over $60,000,000. Chief exports are ox and horse hides, sheep and other skins, wool, tallow, horns, etc. There are six railways running from the city, and over 100 miles of tramway in the city and suburbs. About one-fourth of the inhabitants are whites; the rest are Indians, negroes and mixed breeds. Pop. (1900) 821,291. The province of Buenos Ayres has an area of about 118,000 square miles, and presents nearly throughout level or slightly undulating plains (pampas), which afford pasture to vast numbers of cattle and wild horses. These constitute the chief wealth of the inhabitants. Pop. (1900) 1,140,067.

Buffalo, city and county-seat of Erie co., N. Y., second city in population and importance in New York. It is built at the E. end of Lake Erie, at the head of the Niagara river, 20 miles above the Falls. It is the W. terminus of the Erie canal, and has a navigable water front of 8 miles, with numerous piers, breakwaters, basins and canals, giving it one of the finest harbors on the lakes and making it a great commercial center. The city is connected by several steamship lines with the chief lake ports, and by ferries with Victoria and Fort Erie, on

the Canadian side. The International Bridge, costing $1,500,000, connects Buffalo with these towns. Area, 42 square miles; population (1900) 352,218; (1910) 423,715.

Buffalo is situated on an elevated plain, 50 feet above the lake and 600 feet above sea level. From this plain the ground slopes gradually to the lake. It is bordered on three sides by water, the Niagara river, Lake Erie and Buffalo river. Buffalo river is navigable for 2 miles, and two canals pass between the river and the lake. The city is noted for its wide and beautiful streets, and the abundance of shrubbery and trees decorating them. The principal streets are Main, Niagara, Delaware, Broadway, and Linwood and Elmwood avenues, 120 feet wide, and all over 5 miles in length. Buffalo claims to be the cleanest and healthiest city in the United States and to possess a greater extent of asphalt paving than any other city of its size in the country.

Buffalo has a public park system consisting of several parks containing 741½ acres and connected by boulevards and approaches, affording a continuous drive of 15 miles, and containing an area, with the minor parks and places, of 276½ additional acres. The principal public buildings are the Federal Building, containing the Postoffice and Custom-house, a large building of freestone; the State Arsenal; the Board of Trade Building; the Old and New Armories; Grosvenor Library; Normal School; two public high schools; Erie County and Buffalo Savings Banks; the Erie County Penitentiary; and the City and County Hall. Besides these, there is the Buffalo Library, in Lafayette Square, containing a circulating library of 77,000 volumes, and, in the same building, are the Buffalo Historical Society, the Buffalo Fine Arts Society and School of Arts, and the Society of National Sciences. The State Insane Asylum has a plot of 203 acres and adjoins the Buffalo Park. According to the United States census of 1900 the city had 3,902 manufacturing establishments, employing $103,939,655 capital and 47,606 persons; paying $23,596,308 for wages and $73,359,466 for materials used; and yielding products of an aggregate value $122,230,061. In the fiscal year ending June 30, 1900, the imports of merchandise aggregated in value $4,134,917; and the exports, $14,488,028.

The site of Buffalo was first visited by the French, under La Salle, in 1679. In 1687 a settlement was made by Baron La Honton and Fort Suppose was erected. It was held by the British as Fort Erie during 1783–1784, and was incorporated as the village of Buffalo and soon afterward burned by the British, in 1813. It was rebuilt in 1815; but its progress was slow until the completion of the Erie canal in 1825. It became a city in 1832 and since then it has been very prosperous. A Pan-American Exposition was held here between May 1 and Nov. 2, 1901; President McKinley was fatally wounded while attending it on Sept. 6.

Buffalo, a name often applied to two distinct bovine genera or subgenera — viz., the Asiatic buffalo with the Cape buffalo; and the American buffalo, better named bison. The genus or sub-genus bubalus has the usual bovine characteristics, and, whatever be its exact limits in strict zoological classification, remains, for practical purposes, a large, clumsy ox. The horns rise from the posterior side corners of the skull, are usually thickened out of proportion at the base, and irregularly ridged, though smooth toward the points; the forehead is short and arched; the covering of hair is comparatively sparse. The Asiatic buffalo is a very powerful animal, much more powerful than the ox, and capable of dragging or carrying a far heavier load. The female yields a much greater quantity of milk than a cow, and of excellent quality. It is from buffalo milk that the ghee or semi-fluid butter of India is made. The hide is greatly valued for its strength and durability, but the flesh is decidedly inferior to that of the ox. The Arnee is a very large variety of the common buffalo; a head has been known to measure 13 feet 6 inches along the horns. It occurs in the Indian islands and in Farther India in a wild state, but is also domesticated and used as a beast of burden. The Cape buffalo is generally regarded as a distinct species. The horns are very large; they spread horizontally over

the top of the head, and are then bent down laterally, and turned upward at the point. The head is carried, as by the common buffalo, with projecting muzzle and reclining horns, but the bases of the horns nearly meet on the forehead, where they are from 8 to 10 inches broad. The length of a full grown Cape buffalo is about 8 feet from the root of the horns to the tail, and the height is 5½ feet. This animal is regarded as more formidable than any other in South Africa. The buffalo is still found in large herds in the marshy wooded regions of Central and South Africa, but in Cape Colony, where it was once plentiful, it has now become comparatively rare. It grazes chiefly in the evening, and lies in woods and thickets during the day. It will readily act on the aggressive, and has never been domesticated. The flesh, though coarse, is palatable. The dwarf, wild cow of the island of Celebes is also related to the buffaloes. For the American buffalo, see BISON.

Buffalo Berry, a shrub of the oleaster family, a native of the United States and Canada, with lanceolate, silvery leaves and close clusters of bright red acid berries about the size of currants, which are made into preserves and used in various ways.

Buffalo Grass, a strong growing North American grass, so called from forming a large part of the food of the buffalo, and said to have excellent fattening properties; called also gama grass.

Buffet, anciently a little apartment, separated from the rest of the room, for the disposing of china, glass, etc. It is now a piece of furniture for the dining-room, called a sideboard, for the same purpose.

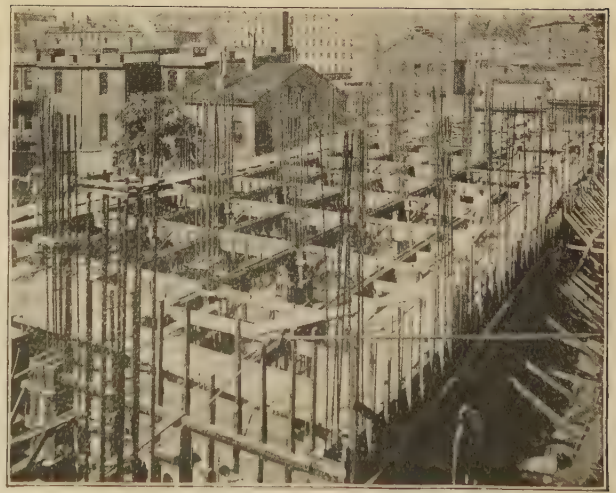
Buffington, Adelbert Rinaldo, an American military officer; born in Wheeling, Va., Nov. 22, 1837; was graduated at the United States Military Academy in 1861; entered the Ordnance Department; was promoted Colonel in 1889, and became Chief of Ordnance with the rank of Brigadier-General, April , 1899. He had command of the National Armory in 1881-1892; is the inventor of a magazine firearm, carriages for light and heavy guns, and parts of models of 1884 Springfield rifles; introduced gas forging furnaces and improved methods in the Springfield armory; and originated the niter and manganese method in use there for blueing iron and steel surfaces of small arms.

Buffon, George Louis Leclerc, Count de, one of the most celebrated naturalists and authors of the 18th century; born in Montbard, Burgundy, Sept. 17, 1707. Buffon, in his earlier years, was animated only by an undefined love of learning and fame, but his appointment, as superintendent of the Royal Garden (now the Jardin des Plantes), in 1739, gave his mind a decided turn toward that science in which he immortalized himself. The most perfect part of his work is the "History of Quadrupeds"; the weakest, the "History of Minerals," in which his imperfect acquaintance with chemistry and his inclination to hypothesis have led him into many errors. After a long and painful illness, he died in Paris, April 16, 1788, at the age of 81 years, leaving an only son, who perished in the Revolution by the guillotine.

Buford, John, a cavalry leader in the Civil War, born in Kentucky 1826. He was graduated at West Point in 1848, saw service in the West, and in July 1862 was made Brigadier-General of volunteers and assigned to a cavalry brigade in the Army of Virginia. He took a leading part in all the campaigns of the army to the battle at Gettysburg, which he is said to have deliberately chosen for the great conflict. He retired on sick leave in November of 1863, and received the rank of Major-General on the day of his death, Dec. 16, 1863.

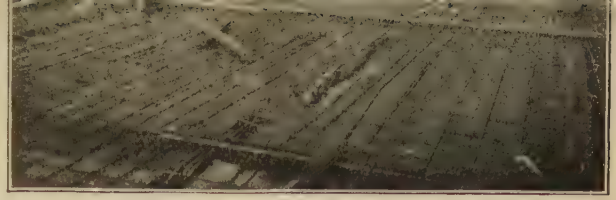
Bug, a common name applied to insects of the natural order Hemiptera. Most of these insects essentially resemble the bed-bug, except that they have wings. Some suck the blood of animals, and others subsist on vegetable juices. While a few are of commercial importance, like the cochineal and lac insects, most of them are harmful. Not a few species are beautiful, but many have the same unpleasant smell which emanates from the bed-bug. The unattractive form and manner of life of the bed-bug are

SITE WITH PORTIONS OF COLUMNS ERECTED

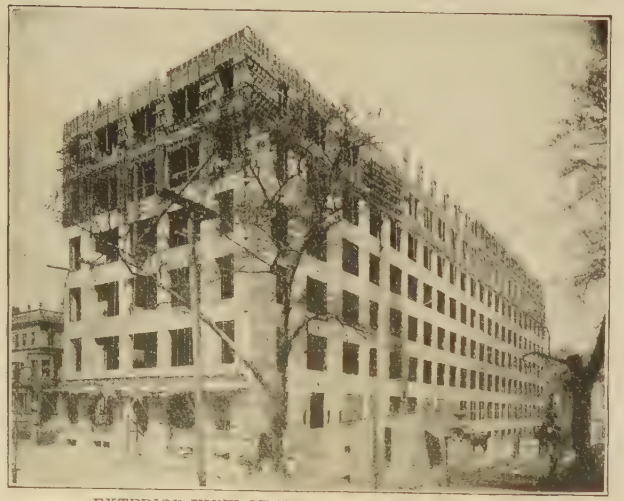


VIEW OF WOOD CENTERING—SECOND FLOOR

FIRST FLOOR, SHOWING COMPLETED COLUMN AND GIRDER CONSTRUCTION



METHOD OF FLOOR CONSTRUCTION



EXTERIOR VIEW OF INCOMPLETED BUILDING

THE COMPLETED BUILDING (68 x 350 FEET)

RE-INFORCED CONCRETE BUILDING CONSTRUCTION

too well known to require description. The eggs, which are white, are deposited in the beginning of summer. They are glued to the crevices of bedsteads or furniture, or to the walls of rooms. Before houses existed, the bug probably lived under the bark of trees.

Bugenhagen, Johann, a German reformer, friend and helper of Luther in preparing his translation of the Bible, born in 1485. He fled from his Catholic superiors to Wittenberg in 1521, where he was made, in 1522, Professor of Theology. He effected the union of the Protestant free cities with the Saxons and introduced into Brunswick, Hamburg, Lubeck, Pomerania, Denmark, and many other places, the Lutheran service and church discipline. He died in 1558.

Buggy, in the United States, a light, one horse, four wheeled vehicle, with or without a hood or top.

Bugle, a treble instrument of brass or copper, differing from the trumpet in having a shorter and more conical tube, with a less expanded bell. It is played with a cupped mouthpiece. In the original form it is the signal horn for the infantry, as the trumpet is for the cavalry.

Buhr Stone, a variety of quartz containing many small, empty cells, which give it a peculiar roughness of surface. They are used principally as mill-stones. The best kinds are creamy white, with a granular and somewhat cellular texture, and are obtained in France. Numerous substitutes for the French buhr stone have been found in the United States, the most important being furnished by the buhr stone rock of the bituminous coal measures of Northwestern Pennsylvania and Eastern Ohio.

Building; Fireproof, Iron and Concrete Construction. Building combines the principles of masonry, carpentry, joining, plumbing and the methods of operation in all allied trades or arts, with a knowledge of the qualities, strength and resistance of materials, and the science of architecture. It comprehends the arrangement of a design for the greatest possible degree of convenience on a ground plan; the preparation and formation of foundations; of floors; the arrangement and construction of drains, sewers, and vent-shafts; the varieties of walling with wood, stone, or laying of bricks; the various methods of tying and bracing walls; the arrangement of gutters on roofs with overflow water pipes in the least inconvenient places; the location and formation of chimneys; the protection of walls from damp, of timber from moisture and stagnant air; of metals from corroding causes, etc., besides the multitude of details which attend the completion of any structure.

In modern times, attention has long been devoted to devising means and providing materials for building purposes that will withstand the dangers and destruction caused by fire. The production of incombustible materials, rather than the rendering of wood and other combustibles fireproof by chemical treatment, has been an important factor in the development of present-day building methods.

During the experimental stage in fireproof construction in the United States from 1854 to 1870, the substitution of iron for wood for all constructive purposes was thought an important advance until iron of all kinds proved unreliable when exposed to temperatures of 900 degrees Fahr. and over. The danger from the new style of building was greater than from the old. In many instances, buildings with cast-iron fronts collapsed completely during a fire, and the plan of *unprotected* iron construction was abandoned.

Between 1875 and 1879, however, the advantages of *protected iron construction* was recognized, and with the improvement of incombustible materials for building purposes, steel skeleton construction is now generally adopted for all new structures of any magnitude throughout the United States, and is extending to foreign countries.

In the use of concrete, a wooden mould of desired width, placed about the steel girders, receives under pressure the liquid stone which is left to harden. When the wooden shields are removed, a smooth wall is presented, which grows harder with the passage of time and withstands a greater pressure than granite or steel itself.

The building of a modern iron-frame skyscraper is chiefly a matter of as-

sembling the parts or "members." Little of the real work is done on the site of the building as in the old days of stone construction. The digging of the cellar and the sinking of caissons in order to lay a bed for the iron-work is the principal engineering work done on the spot. All departments work simultaneously — excavators, draughtsmen, rolling mills, iron-workers, masons, plumbers and finishers. How much weight each upright and floor will have to carry is figured out, and for the guidance of the rolling-mill man detail sketches are made of every beam, girder and upright to be used, with every dimension calculated to the sixteenth of an inch, and every rivet hole exactly indicated as to place and size. Every piece is numbered to correspond with the number on the builder's plan, the floors they are to occupy being indicated by letters. Thus M 114 signifies for M, the thirteenth floor, and 114, its position on that floor. By this plan the stone-work may often be seen built up on the higher stories, while the floors below show only the iron skeleton left open for various reasons, such as the late arrival of boilers, engines, etc. The ideal method in the assembling and putting together of the different parts of the modern building is to keep the stone masons, housesmiths and plumbers one floor behind the iron-workers, the carpenters one floor behind these, the plasterers one floor behind the carpenters, and so on till the top story is finished.

Modern buildings are erected according to the standard regulations for fireproof buildings suggested by the National Board of Fire Underwriters and incorporated in the Building Laws.

Building and Loan Associations, combinations of individuals, who agree to pay a fixed sum monthly, by which a fund is accumulated which is loaned to members, who desire to purchase or improve real estate. Their capital stock, which is prospective, is usualy divided into shares of a par value of $200 each. Each shareholder pays upon each share he holds a monthly subscription of $1, till such payments, with accrued profits, brings the value of the share to par. The number of shares each member may hold varies in different associations, the general rule being not less than two nor more than 25, the latter limitation being intended to prevent speculation. When money sufficient to declare a loan has accumulated in the treasury, a single share of $200 is put up at auction and knocked down to the member who bids the highest premium. He has the option, at the same premium, of taking as many shares as he may desire, within the limits fixed by the association. The age of the asociation depends on the size of these premiums; the larger the premium bid the more quickly the association terminates. Premiums vary with the age and location of the association, and also with the demand for money. There are two methods of treating these premiums, known as the gross and instalment plans. The gross plan treats the premium at once as profits earned, though the amount bid will not be paid in full for 10 or more years. The instalment plan declares as profits only such amount of the premium as is actually paid in during the year. So far as the final result is concerned, there is no difference between the two. Building and loan associations are formed on two plans, called terminal and serial. The terminal associations compel all members to begin payments on the same day. A new member joining after the beginning of the association is thus forced to pay arrearages. This is avoided in serial associations by allowing new members to join at stated intervals, usually six months or a year, without the payment of arrearages. The advantages of building and loan associations are: That each share, whether borrowed upon or not, has credited to it a pro rata amount of all profits declared. Loans are generally advanced to within 80 per cent. of the appraised value of the property. No large salaries are paid. All officers, appraisers, auditors, etc., are elected in open meeting. Members may withdraw at any time after the first year, obtaining a fair share of the profits. Loans are invariably secured by first mortgage. Only members may obtain loans. Mortgages may be paid off at any time. There are no speculative features, the association buys nothing, the borrowing

member making all contracts. A recent report of the United States League of Building and Loan Associations showed about 5,600 associations with nearly 2,000,000 members and $800,000,000 in assets. The receipts and expenditures of a single year balanced at over $500,000,000.

Building Lease, a lease of land for a long term of years, usually 99 years, at a rent called a ground rent, the lessee covenanting to erect certain edifices thereon, and to maintain the same during the term. At the expiration of the lease the houses built become the absolute property of the landlord.

Bukowina, ("beech land"), a Province in the extreme E. of the Austro-Hungarian Empire, surrounded by Galicia, Russia, Moldavia, and Hungary. Area, 4,035 square miles; pop. (1900) 646,591, of whom 42 per cent. are Ruthenians, 32 Moldavians, and 13 Jews, while 70 per cent. belong to the Greek Church. It is traversed by offsets of the Carpathians, culminating at 6,077 feet; gives rise to many rivers flowing toward the Black Sea; and abounds in wood, along with considerable mineral riches.

Bulacan, a town in Luzon, Philippine Islands, about 22 miles N. W. of Manila, with which it is connected by railway; pop. about 10,000. The town is composed mainly of native huts, although there are factories in which silk matting is made. Sugar making is also an industry of importance. The place has strategic advantages, which caused it to become a theater of military operations after the Spanish-American War. It was fully pacified in 1900, and made a military post by the United States authorities.

Bulawayo, the principal town and chief commercial center of Matabeleland, in Southern Rhodesia, South Africa, to which point the railroad from Cape Town was completed in 1897, a total distance of 1,360 miles. The place has a population of 5,000; several hotels, good business blocks and residences, and is rapidly growing in size and importance. Bulawayo a few years ago was the site of a native village of rude huts, in an inclosure of wattles, whose inhabitants were savages of the lowest type.

Bulbul, the Indian name of any bird belonging to a sub-family of thrushes.

Bulfinch, Charles, an American architect, born in Boston 1763; died 1844. He built the first playhouse erected in New England, the old Federal street theatre in Boston, and drew plans for the Massachusetts State house. His principal work was the rotunda, the west approaches, and the portico, in the Capitol at Washington.

Bulgaria, a former principality of Turkey, but since 1908 an independent kingdom; bounded by Rumania on the N., the Black Sea on the E., Turkey on the S., and Servia on the W.; area, 38,080 square miles; capital, Sofia. Its surface is a gradually sloping plain, broken by occasional mountains, which give rise to many rapid tributaries to the Danube. The soil is excellent and the slopes of the mountains are richly wooded. The inhabitants, though not skilled in agriculture, are able to produce a considerable export in grain products beyond what they require for themselves. Wheat is the chief export. Fruit is raised in abundance, and vegetables for home use; roses, for the production of the attar, are raised in large quantities; 80,000 gallons of wine are made annually; silk worms are bred in some regions, and tobacco is raised. There is little mining, although the mountains are rich in minerals. Domestic industries are chiefly carpets, cloths, hosiery, and ribbons. The roads are very bad, and there is but a single line of railroad; about 500 miles, on the route between Vienna and Constantinople. All traffic is carried on by the rivers, and the export trade by the Black Sea. The population is about 74 per cent. Bulgarians, 19 per cent. Turks, the rest Spanish Jews, with a sprinkling of Greeks; 77 per cent. are of the faith of the Orthodox Greeks Church; only 2½ per cent. Moslems. The government is Christian; there is a National militia; military service compulsory. The Bulgarians were originally of Finnish extraction, but coalesced with a Slavic populace, whose language was the richest of the old Slavic tongues. In

their older literature are found many valuable works, chiefly popular songs and translations of the Bible. They adopted Christianity in the 9th century. From that to the 12th their rulers were powerful over the Balkan Peninsula. Then they were conquered and ruled by the Turks for about 500 years. In 1876, on account of the atrocities of the Turkish soldiers, an insurrection broke out. Russia took the part of Bulgaria against Turkey, and the war of 1877–1878 followed. In 1879, Alexander of Battenberg, a German Prince, was made sovereign of part of Bulgaria, the rest being made a separate province called East Rumelia, to prevent Bulgaria becoming a strong State. In 1885 there was a revolution in East Rumelia, which annexed itself to Bulgaria. Servia intervened, and Alexander was forced to abdicate. Against Russia's will, Ferdinand of Saxe-Coburg accepted the vacant throne in 1887. Since 1908 the government has been that of an independent kingdom, with a responsible ministry and a single-chamber National Assembly (one member to every 20,000 of population) elected by universal manhood suffrage for four years. In 1903 Bulgaria notified the Great Powers that unless they compelled Turkey to cease the massacre of Bulgarians in Macedonia, Bulgaria would take the issue into her own hands. This declaration caused a profound sensation throughout Europe and Turkey began preparations for war, but nothing further resulted at the time. Early in October, 1912, Bulgaria declared war against Turkey, the king and crown prince took the field, and by the end of the month the army had won several notable victories over the Turks (see Balkan Peninsula). Pop. (1911) 4,329,108.

Bulkhead, a partition made across a ship, whereby one part is divided from another; also, a wood or stone construction designed to prevent earth or water from falling or flowing into the space so protected. A bulkhead line limits the length of a dock.

Bull, the male of any quadruped of the bovidæ family. Also, a sign of the zodiac: Taurus. It is likewise a term used on the New York Stock Exchange, and applied to those brokers who favor a rise in the market value of stocks. It is the opposite of bear.

Bull, an instrument, edict, ordinance, or decree of the Pope, equivalent to the proclamations, edicts, letters patent, or ukases of secular princes.

Bull, George Joseph, a Canadian ophthalmic surgeon, born in Hamilton, Ontario, Feb. 16, 1848. He was graduated at McGill University in 1869, and, after studying in Paris, began the practice of medicine in Montreal, devoting himself especially to diseases of the eye. He took up his residence in Paris in 1886, and has won celebrity as an expert in ophthalmic subjects. He has written "Ophthalmia and Optometry," and many similar works.

Bull, John, the popular sobriquet or characteristic name applied to the English nation. Its origin is obscure. It appears to have been first used in Arbuthnot's famous satire, the "History of John Bull," written in ridicule of the Duke of Marlborough. This work is included in those of Dean Swift.

Bull, Ole Bornemann, a Norwegian violinist, born in Bergen, Feb. 5, 1810. He secured great triumphs both throughout Europe and in the United States by his wonderful playing. He lost all his money in a scheme to found a colony of his countrymen in Pennsylvania, and had to take again to his violin to repair his broken fortunes. He afterward settled in Cambridge, Mass., and had also a summer residence in his native city, where he died, Aug. 17, 1880.

Bull Baiting, the barbarous sport of setting dogs on a bull, who is tied to a stake and worried by the dogs for the amusement of the spectators. It was a favorite sport in England from a very early period, till it was finally put down by Act of Parliament in 1835.

Bulldog, a variety of the common dog, remarkable for its short, broad muzzle, and the projection of its lower jaw which causes the lower front teeth to protrude beyond the upper. The head is massive and broad, and the frontal sinuses large. The lips are thick and pendulous; the ears pendant at the extremity; the

neck robust and short; the body long and stout; and the legs short and thick. The bulldog is a slow motioned animal, better suited as a watchdog than for any purpose requiring activity and intelligence. He is also said to be capable of great affection for his master. His fearlessness is well known, and in fighting, bulldogs display the most indomitable spirit. They are apt to become vicious as they advance in years, but ordinarily a bulldog is not more ready than any other dog to attack persons without some cause.

The name was originally given to this dog on account of its being commonly employed in bull-baiting in the days when this barbarous sport was in vogue. The bull terrier is a dog that partakes of the character of both the bulldog and the terrier, and is rather a favorite among lovers of dogs.

Buller, Sir Redvers Henry, a British soldier; born in Devonshire, England, in 1839; entered the army in 1858; served in the campaigns in China (1860), Ashanti (1873–1874), South Africa (1878–1879), Egypt (1882–1884), and the Sudan (1884–1885); in 1890 succeeded Lord Wolseley as adjutant-general of the army and became lieutenant-general. On the breaking out of the Boer-British War in South Africa, in October, 1899, he was placed in command of the British forces who went to the relief of Ladysmith. On Dec. 15, following, in attempting to force the passage of the Tugela river at Colenso, he was repulsed, with a loss of 1,097 officers and men and 11 guns. After several repulses he succeeded in relieving Ladysmith, March 3, 1900. He was afterward relieved from command on the ground of failure to meet the expectations of his military superiors, and much scandal was caused by a controversy which followed regarding the responsibility for his failure. He died June 2, 1908.

Bullet, the projectile used for small-arms, either spherical or of an elongated form. The elongated bullet is now in general use for rifles, and there has also been introduced some means of dilating the bullet at the moment of explosion, so that it is forced into the grooves of the rifle and exactly fits the barrel.

Bullfights, the favorite or national diversion of the Spaniards, as now practised said to be of comparatively modern origin, having been devised by the Moors of Spain mainly for the exhibition of horsemanship, courage, and dexterity with the lance. At first it was practised by gentlemen armed only with a short spear or javelin; and on grand occasions, especially the coronation of a king, such combats are still exhibited. But generally the combatants are professionals. The excommunications of the Popes have not been sufficient to induce the Spaniards to abandon this amusement. Charles IV. abolished it; but it was soon revived again. The assailants are seldom killed in these sports. Bullfights are got up either for private gain or for the benefit of some public institution. This characteristic national sport or diversion is exhibited at Madrid through the summer at least once a week for the benefit of the general hospital. The bullfights are held in special rings or amphitheaters, that at Madrid being capable of seating 12,700 persons, its cost of erection having been $400,000.

BULL FINCH.

Bull Finch, a well known bird, locally known as the norskpipe, the coal-hood, the hoop, or the tony hoop, the alp, and the hope. Its song is

much prized. It is often domesticated. It is found in many lands.

Bull Frog, any frog which croaks with a deep rather than a sharp sound. A species of frog found in Carolina and the parts adjacent, which has a voice not unlike that of a bull. It is six or eight inches long, by three or four broad, without the legs. It swallows ducks and young goslings whole. It is difficult to catch from its length of leap, besides which it is generally left unharmed because it is said to purify rather than to pollute the water in which it lives.

Bullhead, various fishes having large heads.

Bullinger, Henri, a celebrated Swiss reformer; born in Bremgarten in 1504; died in Zurich in 1575.

Bullion, uncoined gold and silver in bars or in the mass. United States standard bullion contains 900 parts of pure gold or pure silver, and 100 parts of copper alloy. The coining value of an ounce of pure gold is $20.67183, and the coining value of an ounce of standard gold is $18.60465. The coining value in standard silver dollars of an ounce of pure silver is $1.2929, and the coining value of an ounce of standard silver is $1.1636.

Bull Run, or **Bull's Run,** a stream in Virginia, dividing Fairfax and Prince William counties, in the N. E. part of the State, and flowing into the Occoquan river 14 miles from the Potomac. On its banks were fought two of the most memorable battles during the Civil War. After a series of heavy skirmishes, July 16–19, 1861, the Union army under General McDowell was on the 21st utterly routed by the Confederates under the command of Generals Beauregard and J. E. Johnston. The Union loss was about 3,000 men, while that of the Confederates was estimated at nearly 2,000 men. The former lost, in addition, 27 guns, besides an immense quantity of small arms, ammunition, stores, provisions, and accoutrements. On Aug. 30, 1862, another great battle was fought here between the Union forces commanded by General Pope, and the Confederates under Generals Lee, Longstreet, and "Stonewall" Jackson, when the former were again defeated with heavy loss. The three battles of Groveton, Bull's Run, and Chantilly, fought in three successive days, cost the Union cause about 20,000 men in killed, wounded, missing, and prisoners, 30 guns, and 30,000 small arms. The first battle of Bull Run is sometimes known as the battle of Manassas.

Bull Terrier, a variety of dog, a cross breed between the bull dog and terrier.

Bulnes, Manuel, a Chilian soldier and statesman, born in Concepcion, Dec. 25, 1799. He served in most of the battles of the Chilean revolution. In 1838 he commanded the Chilean army of 5,000 men against Santa Cruz, in Peru, and was finally instrumental in driving Santa Cruz from the country and breaking up the Peru-Bolivian confederation. In 1841 he was elected President of Chile and served for 10 years. He was afterward Senator and Councilor of State. He died in Santiago, Oct. 18, 1866.

Bulow, Hans Guido von, a German pianist and composer, born in Dresden, Jan. 8, 1830; died in Cairo, Feb. 13, 1894.

Bulow, Karl Eduard von, a German author, born at Burg vor Eilenburg in Saxony in 1803; died in 1853.

Bulow, Margarete von, a German novelist, born in Berlin in 1860. She lost her life in an attempt to rescue a boy from drowning, in 1885.

Buloz, Francois, born near Geneva, Switzerland, 1803, died at Paris in 1877; founder and editor of the "Revue des Deux Mondes," the celebrated French fortnightly literary magazine.

Bulrush, or **Bullrush,** called also cat's tail or reed mace. The bulrush of Scripture is the translation of two distinct Hebrew words, agmon, possibly an arundo or some similar genus, in Isa. lviii: 5, and gome, evidently the papyrus nilotica (Ex. ii: 3, Isa. xviii: 2).

Bulthaupt, Heinrich Alfred, a German poet and dramatist, born in Bremen, Oct. 26, 1849. On quitting the university he was for a while a private tutor; then he traveled in the East, in Greece, and in Italy. He was a lawyer in his native town for

some years, and in 1879 became custodian of the city library. Of his dramatic compositions the list is very long.

Bulwer, Henry Lytton Earle (Lord Dalling), an English author and diplomatist, brother of Sir Edward Bulwer-Lytton, born Feb. 13, 1801; died in Naples, May 23, 1872.

Bulwer-Clayton Treaty, a treaty negotiated at Washington, D. C., in April, 1850, by John M. Clayton, Secretary of State under President Taylor, and Sir Henry Bulwer, British Minister to the United States. The treaty provided that neither the United States nor Great Britain should attempt to control a proposed canal across Nicaragua. The treaty provided further for the neutrality of the canal, and it guaranteed encouragement to all lines of interoceanic communication. The terms of the treaty were afterward much disputed. On March 3, 1899, Congress passed a bill providing for the construction of a canal on the Nicaragua route, which also authorized the President to open negotiations with Great Britain for the abrogation of the Bulwer-Clayton Treaty, and under the last clause a convention between the two countries, abrogating portions of the treaty, was signed in Washington, Feb. 5, 1900.

Bulwer-Lytton. See Lytton, Edward George Earle.

Bulyea, George Henry Vicars, a Canadian official; born in Gagetown, N. B., Feb. 17, 1859; removed to Qu'appelle (in the former Assiniboia District, N. W. T.); became Commissioner of Yukon Territory, Territorial Secretary and Minister of Agriculture, and the first lieutenant-governor of the new Province of Alberta (1905).

Bunce, Oliver Bell, author and editor, born New York, Feb. 8, 1828. He edited "Appleton's Journal," "Picturesque America," "Picturesque Europe," "Picturesque Palestine," etc., and wrote "Romance of the Revolution," "Don't: A Manual of Mistakes and Improprieties," "My House: An Ideal;" a novel, and plays. He died at New York, May 15, 1890.

Buncombe, a county in North Carolina. The term bunkum, meaning talking for talking's sake, bombastic speech making, is said to have originated with a Congressional member for this county, who declared that he was only talking for Buncombe when attempts were made to cut his oratory short.

Bundesrath, the German Federal Council which represents the individual States of the Empire, as the Reichstag represents the German nation. It consists (1900) of 58 members, and its functions are mainly those of a confirming body, although it has the privilege of rejecting measures passed by the Reichstag.

Bungalow, the name applied to the kind of houses erected by Europeans in India. They are generally of one story, and with the roof thatched, the ceiling being often of white-washed cloth. They are not well adapted for defense against a foe.

Bunion, a term applied in surgery to enlarged bursæ, or synovial sacs, situated on any part of the foot. In the great majority of cases, bunions are directly produced by the pressure of badly fitting boots; and if the boots are constructed of patent leather, or any material which stops the excreting action of the skin, this, too, may be regarded as an indirect cause of their formation. Sometimes, however, the tendency to suffer from bunions is hereditary, and almost irremediable. A bunion begins as a painful and tender spot at some point exposed to pressure; the part gradually enlarges, and there are indications of an effusion into a natural bursa or a newly formed sac. The disease sometimes proves so troublesome that amputation of the toe, or excision of the ends of the bones affected, has been resorted to.

Bunker Hill, an eminence, 110 feet high, in the Charlestown district of Boston, Mass., connected by a ridge with another elevation, 75 feet high, named Breed's Hill. These heights are memorable as being the seat of a battle, June 17, 1775, and known under the name of Bunker Hill. The city of Boston was occupied by the British under General Gage, who had resolved to begin offensive operations against the rebels. This design becoming known in the American camp, it was determined to seize and fortify

the heights of Charlestown on the night of June 16. The execution of this perilous mission was confided to Colonels Prescott and Pepperell at the head of a brigade of 1,000 men; and at dawn of day a strong redoubt was already completed on Breed's Hill. About 1,500 Americans advanced successively to the relief of Prescott, and General Warren entered the redoubt as a volunteer, refusing the command which was tendered to him. At about 2.30 o'clock, two columns of the British advanced to a simultaneous assault; they were received with a terrific fire, and twice repulsed in disorder. When the Americans had exhausted all their ammunition, Prescott gave the order for retreat. They received a destructive volley as they left the redoubt, and Warren fell, shot through the head with a bullet. The retreat was harassed by a raking fire from the British ships and batteries, but there was no pursuit beyond Charlestown Neck. The British loss was 226 officers and men killed, and 828 wounded; that of the Americans 145 killed or missing, and 304 wounded. Although a defeat, the moral result of this action was great. The Americans had seen superior numbers of the disciplined soldiers of England retreat before their fire, and given the proof that they were able to defend their liberties. On Breed's Hill, and near the spot where Warren fell, stands now the Bunker Hill Monument, the corner stone of which was laid by the Marquis de Lafayette, June 17, 1825. This monument was inaugurated June 17, 1843. It consists of a plain granite shaft, 220 feet high, 31 feet square at the base, and 15 at the top. The monument affords a magnificent panoramic view of the surrounding country.

Bunner, Henry Cuyler, an American poet and story writer; born in Oswego, N. Y., Aug. 3, 1855; became a journalist in 1873, and was editor of "Puck" from shortly after its start till his death. He died in Nutley, N. J., May 11, 1896.

Bunsen, Christian Karl Josias, Chevalier, a distinguished German statesman and philosopher; born in Korbach, in the principality of Waldeck, Aug. 25, 1791; died in Bonn, Nov. 28, 1860.

Bunsen, Robert Wilhelm Eberhard, a German chemist; born in Gottingen, March 31, 1811. He was successively professor in Cassel, Marburg and Heidelberg. Among his many discoveries and inventions are the production of magnesium in quantities, magnesium light, spectrum analysis, and the electric pile and the burner which bear his name. He died in Heidelberg, Aug. 16, 1899.

Bunsen Battery, a modification of the Grove battery, plates or bars of gas coke being used instead of platinum. The electromotive force is slightly less than that of the Grove battery.

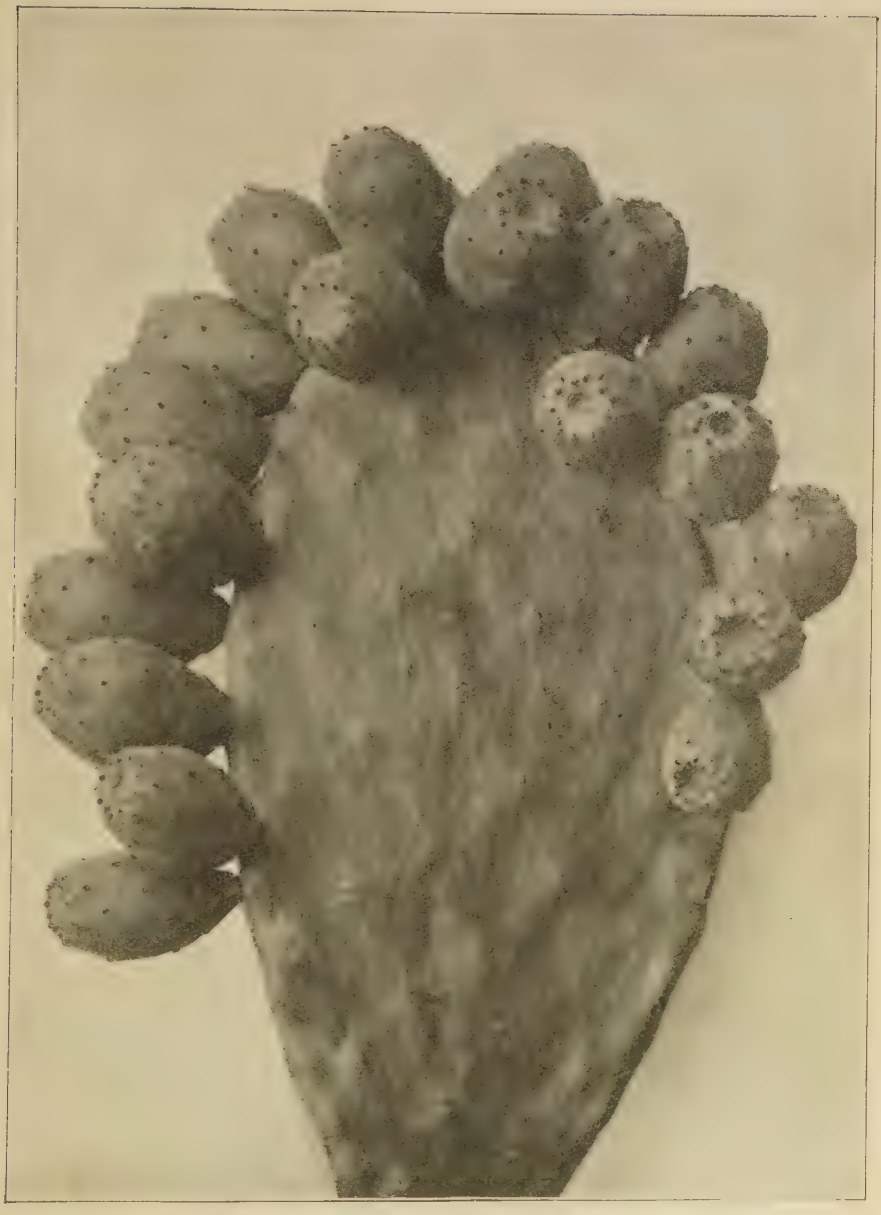
Bunsen's Burner, a form of gas burner especially adapted for heating, consisting of a tube, in which, by means of holes in the side, the gas becomes mixed with air before consumption, so that it gives a non-luminous smokeless flame.

Bunt, attacks the ears of wheat, completely filling the grains with a black, fetid powder. This powder is a mass of spherical, reticulated spores, which, when crushed, give out a most disagreeable smell. It was formerly called stinking rust. Bread made from flour containing this fungus has a disagreeable flavor and a dark color. Such flour, however, is said to be sometimes used in the manufacture of gingerbread, the molasses effectually disguising the flavor. The presence of bunt is readily detected by the microscope.

Bunting, the popular name of a number of insessorial birds, as the common bunting, the rice bunting, the Lapland, snow, black-headed, yellow, cirl, and ortolan buntings. The snow bunting is one of the few birds which cheer the solitudes of the Polar regions.

Bunting, a thin woolen stuff, of which the colors and signals of a ship are usually formed; hence a vessel's flags collectively.

Bunyan, John, author of the "Pilgrim's Progress," was the son of a tinker, and was born in the village of Elstow, near Bedford, England, in 1628. After receiving a scanty education, he for some time led a wandering life. During the civil war he served as a soldier, most probably in



BURBANK'S THORNLESS CACTUS, WITH FRUIT

the army of the Parliament; and his mind now became impressed with a deep sense of religion. This reformation in his life was powerfully assisted by the piety of his wife, whom he married in 1648 or 1649, and who died some seven years later. He joined a Nonconformist body in Bedford, and at length in 1657 formally undertook the office of a public teacher among them. Acting in defiance of the severe laws enacted against dissenters from the Established Church, Bunyan was arrested on Nov. 12, 1660, and committed for trial to the county jail. He was indicted at the quarter-sessions early in 1661, and after an irregular trial was sentenced to three months' imprisonment, which was to be followed by banishment if he persisted in his determination to repeat his offense. He could not be induced to moderate his zeal, and consequently though not banished, he lay in prison almost continuously till 1672, and was again imprisoned in 1675 for six months.

To this confinement he owes his literary fame, for, in the solitude of his cell, his ardent imagination, brooding over the mysteries of Christianity, the miraculous narratives of the sacred Scripture, and the visions of Jewish prophets, gave birth to that admired religious allegory, the "Pilgrim's Progress"—a work which, like "Robinson Crusoe," has remained unrivaled amid a host of imitators. The first edition appeared in 1678; the second, describing the journey of Christian's wife and children, was published in 1684. His "Holy War made by Shaddai upon Diabolus" (1682), his other religious parables, and his devotional tracts, which are numerous, are also remarkable, and many of them valuable. He died during a visit to London, Aug. 31, 1688.

Buoy, any floating body employed to point out the particular situation of a ship's anchor, a shoal, the direction of a navigable channel, etc. They are made of wood, or, now, more commonly of wrought iron plates riveted together and forming hollow chambers. They are generally moored by chains to the bed of the channel, etc. They are of various shapes, and receive corresponding names; thus, there are the can buoy, the nun buoy; the bell, mooring, whistling, etc. buoys. A life-buoy is one intended to keep a person afloat.

Burbage, Richard, a noted English actor and contemporary of Shakespeare, b. 1567, d. 1619.

Burbank, Luther, American horticulturist, b. Lancaster, Mass., Mar. 7, 1849. The son of a farmer, he became interested in plant life and earned a world-wide reputation on the Burbank Exposition Farms at Santa Rosa, Cal., in new developments through cross-breeding. He originated the plumcot, a new fruit; a white blackberry; new apples; gold and pitless plums; a new potato; an edible thornless cactus for desert travelers; new prunes, roses, violet-odored lilies, etc., the number of fruits and flowers which he improved being unequaled. In 1905 the Carnegie Institution granted him $10,000 yearly for 10 years to continue his work.

Burbot, or Burbolt, a fish of the cod family, shaped like an eel.

Burbridge, Stephen Gano, an American military officer, born in Scott county, Ky., Aug. 19, 1831; organized for the Union army the famous 26th Kentucky Regiment, which he led at Shiloh; led the charge at Arkansas Post and at Port Gibson, being the first to enter each of these places; retired 1865; died 1894.

Burch, Charles Summer, an American clergyman; born in Pinckney, Mich., June 30, 1854; was engaged for several years in editorial work; ordered deacon in the Protestant Episcopal Church in 1895, and ordained priest in 1905; and in 1910 was elected the first suffragan bishop (for New York) of the Episcopal Church in America.

Burchard, Samuel Dickinson, an American Presbyterian clergyman, born in Steuben, N. Y., Sept. 6, 1812; for many years pastor in New York city; created much political excitement throughout the United States by an alliterative characterization of the Democratic Party during the Presidential campaign of 1884. A company of clergymen, about 600 in number, called on James G. Blaine, the Republican candidate, at the Fifth Avenue Hotel, New York city, where Burchard made an address, in which

he affirmed that the antecedents of the Democracy were "Rum, Romanism, and Rebellion." He died in Saratoga, N. Y., Sept. 25, 1891.

Burckhardt, Johann Ludwig, a Swiss traveler, born in Lausanne in 1784. He went to England in 1806, and undertook a journey of exploration to the interior of Africa for the African Association. He started in 1809, assuming an Oriental name and costume; spent some time in Syria, thence visited Egypt and Nubia; spent several months at Mecca, and visited Medina; and, after a short stay in Egypt, died at Cairo while preparing for his African journey, in 1817.

Burden, Henry, an American inventor, born in Dumblane, Scotland, April 20, 1791; was brought up on a farm, and, at an early age, showed his inventive genius by making a variety of labor-saving machinery, including a threshing machine. He came to the United States in 1819; engaged in the manufacture of agricultural implements; invented an improved plow; the first cultivator made in this country; machines for making horse shoes and hook headed spikes used on railroads; a self-acting machine for rolling iron into bars; and a new machine for making horse shoes, which received a rod of iron and turned out completed shoes at the rate of 60 a minute. He died in Troy, N. Y., Jan. 19, 1871.

Burdett, Sir Francis, an English politician, born Jan. 25, 1770. He sat in the British Parliament for 40 years, as a Liberal of the most ultra type; was one of the earliest advocates of Parliamentary reform, and suffered bitter persecutions at the hands of the Tory government of those times. He was twice imprisoned in the Tower of London for his outspoken Liberalism, fined $5,000, and condemned to three months' further imprisonment in the King's Bench. He died Jan. 23, 1844.

Burdette, Robert Jones, an American journalist and humorist, born in Greensboro, Pa., July 30, 1844. He served in the Union army during the Civil War. He is famous for humorous newspaper skits, of rare variety, charm, and unrepetitious freshness. He was licensed as a Baptist clergyman in 1887.

Burdett-Coutts, The Right Hon. Angela Georgina, Baroness, daughter of Sir Francis Burdett, born April 21, 1814. In 1837 she inherited much of the property of her grandfather, Thomas Coutts, the banker, on the death of his widow, Miss Mellon, the actress once, afterward Duchess of St. Albans. Besides spending large sums of money in building and endowing churches and schools, she endowed the three colonial bishoprics of Cape Town, Adelaide, and British Columbia, founded an establishment in South Australia for the improvement of the aborigines, organized the Turkish Compassionate Fund (1877), and established a fishery school at the Irish village of Baltimore (1887). To the city of London she presented, besides several handsome fountains, the Columbia Market, Bethnal Green (1870), for the supply of fish in a poor district; she also built Columbia Square, consisting of model dwellings at low rents, for about 300 families; and the People's Palace owes much to her generosity. In 1871 she accepted a peerage. In 1881 she was married to William Ashmead-Bartlett (born in 1846), who in 1882 obtained the royal license to assume her name. She died in London, Dec. 30, 1906.

Burdick, Francis Marion, an American jurist and legal writer, born in De Ruyter, N. Y., Aug. 1, 1845. He was graduated at Hamilton College in 1869 and at its Law School in 1872. He practiced law at Utica, N. Y., from 1872 to 1883, and was later Professor of Law at Hamilton College and at Cornell. Since 1891, he has been Professor of Law at Columbia. He has written a number of legal text books.

Bureau, Jacques, a Canadian lawyer; born in Three Rivers, P. Q., July 9, 1860; was admitted to the bar in 1882; lived in Winnipeg and Duluth, Minn. Member of Parliament for Three Rivers and St. Maurice in 1900 and 1904; became Solicitor-General of Canada in 1907.

Bureaucracy, government by departments of State, acting with some measure of independence of each other, instead of government by the heads of those departments acting as a cabinet on their joint responsibility.

Burger, Gottfried August, a German poet, born in Molmerswende, Anhalt, Dec. 31, 1747; died in Gottingen, June 8, 1794.

Burgess, Edward, an American naval architect, born in West Sandwich, Mass., June 30, 1848. He was educated at Harvard, where he graduated in 1871, and became secretary of the Boston Society of Natural History. He was instructor of entomology at Harvard from 1879 to 1883. He then became a designer of sailing yachts. In 1884 he designed the "Puritan," the winner of the America's Cup in 1885; and a year later the "Mayflower," the winner in 1886. He died in Boston, Mass., July 12, 1891.

Burgess, James, a Scotch Orientalist, born in Kirkmahoe, Dumfriesshire, Aug. 14, 1832. He went to India in 1855 and became director-general of archæological surveys there.

Burgess, John William, an American educator; born in Cornersville, Tenn., Aug. 26, 1844. He was educated at Cumberland University, Lebanon, Tenn., and at Amherst. He studied law and began its practice at Springfield in 1869. During this year he was appointed Professor of English Literature and Political Economy at Knox College. Two years later, he studied abroad at Gottingen, Leipsic, and Berlin. On his return, he became Professor of History and Political Science at Amherst, and in 1876 Professor of History, Political Science and International Law in Columbia Univ., where in 1890 he attained the deanship of the faculty of Political Science. In 1906-07, he was the first to hold the "Roosevelt Professorship of American History and Institutions" in the University of Berlin.

Burgh, the same as borough. In the United States the termination borough was for generations added to the names of places, as in England; but, under a decision of the United States Board on Geographic Names, the form is now boro, as Brattleboro.

Burglary, the crime of breaking into an inhabited house by night with intention of committing a felony. In the United States burglary is punished by State laws, but the common law is generally followed. Some States include breaking into shops, offices, warehouses, factories, and meeting houses as burglary. An Act of Congress of 1825 expressly includes breaking into boats and vessels with intent to commit a felony. In some States the same deed done in the daytime is defined as burglary in the second degree. The night is the time, between one hour after sunset and one hour before sunrise, or when the features of a man cannot be clearly discerned. In North Carolina burglary is punishable by death, but the usual penalty is a long term of imprisonment.

Burgkmair, a family of German artists in the 15th and 16 centuries, the best known of whom is Hans, born in Augsburg in 1472. He is supposed to have died in 1559.

Burgos, a city of Northern Spain, once the capital of the kingdom of Old Castile, and now the chief town of the Province of Burgos. It stands on the declivity of a hill on the right bank of the Arlanzon, and has dark narrow streets full of ancient architecture but there are also fine promenades in the modern style. The cathedral, commenced in 1221, is one of the finest examples of Gothic architecture in Spain. It contains the tombs of the famous Cid, and of Don Fernando, both natives of Burgos, and celebrated throughout Spain for their heroic achievements in the wars with the Moors. Before the removal of the court to Madrid, in the 16th century, Burgos was in a very flourishing condition, and contained thrice its present population. Pop. 31,301. The Province has an area of 5,650 square miles, largely hilly or mountainous, but with good agricultural and pastoral land. Pop. 338,551.

Burgoyne, John, an English general and dramatic author, born Feb. 24, 1723. After having served with distinction in Portugal, he was sent to America in 1775. He joined General Gage at Boston, with large reinforcements, and witnessed the battle of Bunker Hill, of which he has left an animated description. After proceeding to Canada as Governor, he returned to England, but in 1777 was dispatched to take command of that expedition from Canada against the

United States, the failure of which so largely contributed to the establishment of American freedom. Few battles, indeed, have achieved, in their ultimate influence, results so great as the surrender of Burgoyne with 5,791 fighting men, well provided with artillery, at Saratoga, to the army of General Gates. He died in London, Aug. 4, 1792.

Burgundy, a region of Western Europe, so named from the Burgundians, a Teutonic or Germanic people originally from the country between the Oder and the Vistula. Burgundy is now represented by the four Departments of Yonne, Cote-d'Or, Saone-et-Loire, and Ain. It is watered by a number of navigable rivers, and is one of the most productive provinces in France, especially of wines.

Burgundy Wine, the finest of all the French wines, the produce of vines cultivated in the Cote-d'Or, a portion of the ancient Province of Burgundy.

Burial, the most general method of disposing of the dead, the practice of burning them on a funeral pile, prevalent to a limited extent among the Greeks and the Romans, and nearly universal among the Hindus, being the exception and not the rule. The Egyptians, and, at least in some special cases, the Jews, embalmed their dead (Gen. l: 3, 26; John xix: 39, 40). In Europe, according to Sir John Lubbock, interments in which the corpse is in a sitting or contracted posture belong to the stone age, and those in which it has been burned and only the ashes interred, to the bronze age, and those in which the corpse lies extended, presumably to the age of iron. In ancient Peru, however, and some other parts of America this form of interment was within the recent historic period.

Buriats, a nomadic Tartar people allied to the Kalmucks, inhabiting the S. part of the government of Irkutsk and Transbaikalia. Their number is about 200,000. They live in huts called yurts, which, in summer, are covered with leather, in winter with felt.

Buriti, a South American palm growing to the height of 100 to 150 feet, preferring marshy situations, and bearing an imposing crown of fan shaped leaves. A sweet vinous liquor is prepared from the juice of the stem, as also from the fruits.

Burke, Edmund, a British orator and statesman; born in Dublin, Ireland, Jan. 12, 1729. The first speech of Burke in Parliament was on the Grenville Stamp Act; and it was at his advice that the Rockingham administration took the middle and undecided course of repealing the act, and passing a law declaratory of the right of Great Britain to tax the American colonies. This ministry was soon dissolved to make room for a new cabinet under Pitt. He opposed the ministerial measures antecedent and consequent to the American war; and the whole powers of his eloquence were exerted first to prevent, and then to heal the fatal breach between the mother country and her colonies. In 1774 he was chosen member for Bristol, and for the next eight years Fox warmly supported him in his opposition to Lord North's administration. In 1778 he delivered his famous speech against the employment of the Indians in the American war. The last great act of his political life was his condemnation of the French Revolution. He died July 9, 1797.

Burke, John Benjamin Butler, Irish scientist; scholar and gold medalist of Trin. Coll., Dublin; research degree, Cambridge Univ., 1900; in 1905 demonstrated spontaneous generation by "radiobe" cultures showing growth and sub-division. He was anticipated, in 1904, by Prof. Dubois's radium, and also barium, "eobes."

Burke, Robert O'Hara, an Irish explorer; one of the first white men to cross the Australian continent from S. to N., was born at St. Cleram, County Galway, in 1820; educated in Belgium; served in the Austrian army (1840), became captain, joined the Irish constabulary (1848), and emigrated to Australia in 1853. While inspector of police in Victoria he accepted the leadership of an expedition for crossing the Australian continent. After many hardships, Burke and Wills reached the tidal waters of the Flinders river. He died of starvation on his return journey, June 28, 1861.

Burleigh, William Cecil, Lord, an English Secretary of State under

Edward VI. and Elizabeth, and Prime Minister of England for 40 years, born in Lincolnshire, Sept. 13, 1520. He took a leading part in the establishment of the Thirty-nine Articles of faith. He died Aug. 4, 1598.

Burlingame, Anson, an American diplomatist, born in New Berlin, N. Y., Nov. 14, 1822. He was sent as United States Minister to China in 1861, and on his retirement from this post, in 1867, he was requested by the Regent, to go on a special mission for the Government to foreign courts. Died in St. Petersburg, Feb. 23, 1870.

Burlingame, Edward Livermore, an American man of letters, born in Boston, May 30, 1848. He was private secretary to his father, Anson Burlingame; after 1879 was associated with the house of Charles Scribner's Sons; and in 1886 became editor of "Scribner's Magazine."

Burlington, city and capital of Chittenden county, Vt.; on Lake Champlain and the Central Vermont and Rutland railroads; 40 miles N. W. of Montpelier; has exceptionally fine scenic environments, a commodious harbor protected by a breakwater and enhancing its value as a port of entry, and flour, cotton, saw, and planing mills, and machine shops; is the seat of the State University and the State Agricultural College, and the see of a Protestant Episcopal and a Roman Catholic bishop. Pop. (1910) 20,463.

Burlington, city and capital of Des Moines county, Ia.; on the Mississippi river and the Chicago, Burlington & Quincy and other trunk line railroads; 206 miles W. of Chicago. It is in a noted bituminous coal region; is an important distributing point in general trade and especially in grain; has large building and paving brick plants, a considerable output of steam and gas engines, farming machinery and implements, patent medicines, and woolen goods, and the machine shops of the Chicago, Burlington & Quincy railroad. Pop. (1910) 23,234.

Burma, a province of British India; on the E. side of the Bay of Bengal; bounded on the E. by Siam, the Laos territory, and China, and on the N. and N. W. chiefly by Assam and other parts of India. At one time it formed the greater portion of a native empire, its greatest length being about 1,200 miles, and its breadth 600; its area being then about 270,000 English sq. m. In 1826 Arracan and Tenasserim, in 1852 Pegu and Martaban, and in 1886 the rest of the kingdom was annexed by Great Britain, King Theebaw deposed, and British or Lower Burma and Upper Burma united in one province under a lieut.-gov. The chief towns are Mandalay, cap. Upper Burma; Rangoon, cap. Lower Burma; and Moulmein. Rice, wheat and other grains, cotton, tobacco, sugar cane and tea are cultivated, the famous ruby mines worked, and the oil fields exploited by the American Standard Oil Co. All outside oil is excluded by law. In 1906 Burma supplied India with 47,000,000 gallons of oil, value $5,400,000, as against foreign supplies 51,000,000 gals., value $5,933,333. Pop. 10,500,000.

Burmeister, Hermann, a German scientific writer, born in Stralsund, Jan. 15, 1807; distinguished himself as a geologist and zoologist in his native country, and settled permanently in the Argentine Republic, where he continued his investigations. He died in Buenos Ayres, Argentine Republic, May 2, 1892.

Burmeister, Richard, a German-American musical composer; born in Hamburg, Germany, Dec. 7, 1860; received an academical education in Hamburg; studied with Franz Liszt, and in Rome, Budapest, and Weimar; made concert tours in Europe in 1883–1885 and in the winter of 1893; was at the head of the piano department of Peabody Institute, Baltimore, Md., in 1885–1897; and settled in New York in the latter year. He made concert tours all over the United States and was director of the Scharwenka Conservatory, New York, in 1897–1899.

Burnaby, Frederick Gustavus, soldier, traveler, and author, born in Bedford, England, March 3, 1842; a son of the Rev. G. A. Burnaby. On Jan. 17, 1885, while serving as lieutenant-colonel of the Royal Horse Guards in the Egyptian campaign, he was killed at the battle of Abu-Klea.

Burnand, Francis Cowley, an English author and dramatist, born Nov. 29, 1836. He was editor of "Punch" in 1880–1906. He wrote the libretto for Sullivan's "Chieftain" (1894).

Burne-Jones, Sir Edward, an English painter, born in Birmingham, Aug. 28, 1833; died in London, July 17, 1898.

Burnet, Jacob, an American jurist, born in Newark, N. J., Feb. 22, 1770. Admitted to the bar in 1796, he removed to Cincinnati, then a village with about 500 inhabitants, and was a member of the territorial government from 1799 till the establishment of a State Government in 1803. In 1821 he was appointed Judge of the Supreme Court of Ohio, and was elected United States Senator in 1828. Burnet was elected a member of the French Academy of Sciences upon the recommendation of Lafayette. He died in Cincinnati, May 10, 1853.

Burnett, Frances Hodgson, an Anglo-American novelist, born in Manchester, England, Nov. 24, 1849. Her family removed to Tennessee in 1865. She early wrote stories. In 1873 Miss Hodgson married Dr. Burnett, from whom she obtained a divorce in 1898, afterwards marrying Stephen Townsend. Her most successful work was "Little Lord Fauntleroy." "The Making of a Marchioness" appeared 1901.

Burney, Charles, an English composer and writer on music; born in Shrewsbury, England, April 7, 1726; died April 12, 1814.

Burney, Frances (Madame d'Arblay), an English novelist, daughter of Charles Burney; born in King's Lynn, Norfolk, June 13, 1752; died in Bath, Jan. 6, 1840.

Burnham, Clara Louise, an American story writer, born in Newton, Mass., May 25, 1854. She is the daughter of George F. Root, and has lived in Chicago since childhood. She has written several novels, and has also written libretti for her father's cantatas.

Burnham, Daniel Hudson, an American architect, born in Henderson, N. Y., Sept. 4, 1846. He studied architecture in Chicago and designed notable structures there, including the Rookery, Calumet Club, the Temple, Masonic Temple, and the Great Northern Hotel, as well as large buildings in other cities. He was Director of Works at the Chicago World's Fair.

Burnham, Sherburne Wesley, an American astronomer, born in Thetford, Vt., in 1838. He took up astronomy as an amateur, and, in 1876, became connected with the Chicago Observatory, and later with the Lick Observatory, receiving also an appointment as Professor of Practical Astronomy at the University of Chicago. He has made notable discoveries of double stars, having catalogued 1,274 new ones.

Burning, a mode of capital punishment formerly common in civilized countries.

In metal working, joining metals by melting their adjacent edges, or heating the adjacent edges and running into the intermediate space some molten metal of the same kind. In ceramics, the final heating of clay ware, which changes it from the dried or biscuited condition to the perfect ware. The glaze or enamel is applied to the baked ware, and is vitrified in the burning.

Burning Glass, a convex lens of large size and short focus, used for causing an intense heat by concentrating the sun's rays on a very small area. The larger the circular area of the lens and the smaller the area of the spot on which the concentrated rays fall, the greater is the effect produced. Concave mirrors have been used for similar purposes, and are also called burning glasses. Their power was known to Archimedes, and it is mythically stated that by their aid he burned a fleet in the harbor of Syracuse, 214 B. C.

Burnisher, a tool for smoothing or pressing down surfaces to close the pores or obliterate lines or marks. The engraver's burnisher is made of steel, elliptical in cross section, and coming to a dull point like a probe. Some burnishers are made of the canine teeth of dogs. Burnishers of bloodstone are used for putting gold leaf on china ware. Agate burnishers are used by bookbinders. The gilder's burnisher is of agate or porphyry.

Burnley, a parliamentary and municipal borough of England, in Lan-

cashire, about 22 miles N. of Manchester. It presents a modern appearance, and is, generally speaking, well built, mostly of stone. The staple manufacture is cotton goods, and there are large cotton mills and several extensive foundries and machine shops, with collieries and other works, in the immediate vicinity. Pop. (1901) 97,044.

Burns, Alexander, a Canadian educator, born in Castlewellan, Ireland, Aug. 12, 1834. He went to Canada in 1847, and was graduated at Victoria College, Toronto, in 1861, joining the Methodist Church. From 1868 to 1878 he was President of Wesleyan Ladies' College, Hamilton, Ontario. He was tried for heresy by the Ontario Methodist Conference in 1882, but acquitted. He died May 22, 1900.

Burns, Anthony, a fugitive slave, born in Virginia in 1836; arrested in Boston in 1854, under the Fugitive Slave Law. An indignation meeting, in which Theodore Parker and Wendell Phillips participated, was held in Faneuil Hall, while a premature and unsuccessful attempt to rescue Burns under the leadership of Thomas W. Higginson resulted in bloodshed and the death of one of the deputies. When the courts decided that the extradition was legal, Burns was escorted by a strong guard to a revenue cutter, and a riot was barely averted. Burns afterward regained his liberty, studied at Oberlin College, and became a Baptist minister in Canada. He died in St. Catherine, Canada, July 27, 1862.

Burns, John, an English labor organizer and Socialist leader, born in London in 1858. He was of humble birth and became a factory boy at the age of 10. By working a year as engineer on the Niger river, he earned enough for a six months' tour of Europe. He constantly addressed audiences of workmen, and in 1887 was imprisoned for maintaining the right of public meeting in Trafalgar Square. In 1892 he was elected to the London County Council, and to Parliament from Battersea, and in 1905-06 became a member of the British Cabinet as President of the Local Government Board.

Burns, Robert, Scotland's national poet; born in a clay-built cottage less than 2 miles S. of the town of Ayr, and not far from the river Doon, Jan. 25, 1759. His father, William Burness (for so the name was originally spelled), the son of a Kincardineshire farmer, and a worthy and intelligent man, at the time of the poet's birth occupied a few acres of land, and acted as gardener and overseer for a neighboring gentleman. His mother, Agnes Brown, belonged to Ayrshire. He died at Dumfries, Scotland, July 21, 1796. His fame has increased as years go on, and his birthday is honored everywhere throughout the civilized world, while the poems for which he was glad to accept a few pounds have brought vast sums to booksellers.

Burns and **Scalds,** injuries produced by the application of excessive heat to the human body. They are generally dangerous in proportion to the extent of surface they cover, and a widespread scald may cause serious consequences on account of the nervous shock.

Burnside, Ambrose Everett, an American military officer, born in Liberty, Ind., May 23, 1824; served an apprenticeship to a tailor, but received a nomination to West Point, where he graduated in 1847. He left the army as First Lieutenant in 1852, but returned as Colonel of Volunteers in 1861, commanded a brigade at Bull Run, and, in February, 1862, captured Roanoke Island. Having rendered important services at South Mountain and Antietam, he, in November, reluctantly superseded General McClellan. On December 13, he crossed the Rappahannock, and attacked General Lee near Fredericksburg, but was repulsed with a loss of over 10,000 men, and was soon after transferred to the Department of Ohio. In November, 1863, he successfully held Knoxville against a superior force and, in 1864 he led a corps, under General Grant, through the battles of the Wilderness and Cold Harbor. Resigning in April, 1865, he was elected Governor of Rhode Island (1866–1868), and United States Senator in 1875 and 1881. He died in Bristol, R. I., Sept. 13, 1881. Although unsuccessful in high command

he gained universal esteem by his frankness in avowing responsibility for defeat.

Burnt Offering, one of the sacrifices divinely enjoined on the Hebrew Church and nation. It is called, in their language, olah, from the root alah = to ascend, because, being wholly consumed, all but the refuse ashes was regarded as ascending in the smoke to God.

Burr, Aaron, an American statesman, and third Vice-President of the United States, born in Newark, N. J., Feb. 5, 1756. While in his 20th year he joined, in 1775, the American army, under Washington, at Cambridge. His ardor in behalf of the Revolutionary cause was such that he was induced to join Arnold as a volunteer in the expedition against Quebec, and he was appointed aide-de-camp to Montgomery. In 1776, he was received by General Washington as one of his military family, but was soon cast off. He never forgave Washington this act. Burr's military talents secured for him the post of Lieutenant-Colonel in 1777, which he retained until 1779. Upon Burr's retirement from military life he resumed the study of law, and commenced its practice in Albany in 1782, but soon removed to New York. In 1789 he was made attorney-general of New York. From 1791 to 1797 he was a member of the United States Senate. In 1800 he was a candidate for the Presidency, and received the same number of votes as Thomas Jefferson (79), and the choice was thus left to the decision of Congress, which, on the 36th ballot, elected Jefferson as President and Burr as Vice-President. In 1804 was fought the famous duel between Alexander Hamilton and Burr, in which the former was killed. In 1807 he was apprehended, taken to Richmond, Va., and tried on a charge of a treasonable design upon the southwest, but was acquitted. He resumed the practice of law, but lived in comparative obscurity until his death on Staten Island, Sept. 14, 1836. In his later life he was for a time husband of the noted Madame Jumel.

Burr, Edward, an American military officer; born in Booneville, Mo., May 19, 1859; was a student in Washington University in 1874–1878, and at the United States Military Academy in 1878–1882, and was graduated at the latter and assigned to the corps of engineers with the rank of 2d lieutenant in the latter year. He was promoted 1st lieutenant in 1883, and captain in 1894; and as lieutenant-colonel of volunteers commanded the battalion of engineers in the campaign against Santiago de Cuba in June-July, 1898. He was a member of the American Society of Civil Engineers.

Burr, Enoch Fitch, an American mathematical and religious writer, born in Green's Farms, Fairfield co., Conn., Oct. 21, 1818. He was graduated from Yale in 1839, and became pastor of the Congregational Church in Lyme, Conn., in 1850. After 1868 he was a lecturer at Amherst College. He died in 1907.

Burr, George Lincoln, an American historian, born in Oramel, N. Y., Jan. 30, 1857. He was graduated at Cornell in 1881 and entered its faculty in 1888, being Professor of Ancient and Mediæval History there. He was Expert in History to the Venezuelan Boundary Commission (1896–1897).

Burr, William Hubert, an American educator; born in Waterloo, Conn., July 14, 1851; was graduated at Rensselaer Polytechnic Institute in 1872; was employed by the Wrought Iron Bridge Co., of New York city and later on the water supply and sewerage system of Newark, N. J.; was Assistant Professor, and later Professor of Rational and Technical Mechanics at Rensselaer Polytechnic Institute in 1876–1884; became assistant engineer of the Phœnix Bridge Co., in 1884, and subsequently its general manager; was Professor of Engineering in the Lawrence Scientific School of Harvard University in 1892–1893; consulting engineer to the New York city department of public works in 1893–1895, of parks and of docks in 1895–1897; and later of bridges.

Burrill, Thomas Jonathan, an American naturalist; born in Pittsfield, Mass., April 25, 1839; was graduated at the Illinois State Normal University in 1865; became Professor of Botany and Horticulture there in 1868, and its vice-president in 1882; was dean of the Department of Natural Sciences in 1877–1894, and acting president in 1891–1894.

Burritt, Elihu, an American author, called the "Learned Blacksmith," born in New Britain, Conn., Dec. 8, 1811. He was a blacksmith, linguist, lecturer, reformer and a noted advocate of peace. He died in New Britain, March 7, 1879.

Burritt College, a co-educational institution, in Spencer, Tenn.; organized in 1848, under the auspices of the Christian Church.

Burroughs, George, an American clergyman, born in 1650; was executed for witchcraft, at Salem, Mass., Aug. 19, 1692. He was graduated at Harvard in 1670, and preached in Salem in 1680. He was accused of bewitching Mary Wolcott and others by wicked arts and condemned on the evidence of the afflicted persons. At his execution he repeated without mistake the Lord's Prayer, which a witch was said to be unable to do. Cotton Mather witnessed his execution.

Burroughs, George Stockton, an American educator; born in Waterloo, N. Y., Jan. 6, 1855; was graduated at Princeton University in 1873, and at its Theological Seminary in 1877; removed to New England in 1880; and served in the ministry of the Presbyterian Church in Fairfield and New Britain, Conn.; and at Amherst College; was Professor of Biblical Literature in 1886–1892; president of Wabash College, Crawfordsville, Ind., in 1892–1899; and became Professor of Old Testament Language and Literature in Oberlin Theological Seminary in 1899. He died in 1901.

Burroughs, John, an American essayist and descriptive writer; born in Roxbury, N. Y., April 3, 1837. He taught school for about eight years, was for a time a journalist and then became a clerk in the Treasury Department and subsequently a national bank examiner. He settled on a farm in New York State and has since devoted himself to fruit culture, nature study and literature. Many of his papers were written in his bark covered study to which he has given the name "Riverby," on the banks of the Hudson.

Burrowing Owl. In the West Indies these birds dig burrows for themselves, in which they form their nests and deposit their eggs, while in the western part of the United States they occupy the holes of the prairie dogs jointly with the dogs.

Burrows, William, an American naval officer, born near Philadelphia, Pa., Oct. 6, 1785. He commanded the "Enterprise" in its successful action with the British "Boxer" off the coast of Maine. Both commanders were killed in the fight, Sept. 5, 1813, and were buried side by side at Portland.

Burt, Thomas, an English labor leader, born in Northumberland, Nov. 12, 1837. Since 1874 he has had a seat in Parliament as a Liberal.

Burton, Marion LeRoy, an American educator; born in Brooklyn, Ia., Aug. 30, 1874; was ordained to the Congregational ministry in 1905; pastor of the Church of the Pilgrims, Brooklyn, N. Y., in 1908–1909; became president of Smith College (Mass.) in 1910.

Burton, Sir Richard Francis, an English traveler, linguist, and author; born in Barham House, Herfordshire, March 19, 1821; died in Trieste, Oct. 20, 1890.

Buru, or **Boeroe,** an island of the Malay Archipelago, in the Residency of Amboyna, from which it lies about 40 miles to the W. Area, with the small island of Amblau, 3,360 square miles; population variously estimated at from 10,000 to 50,000.

Burying Beetles. They receive their name from a practice they have of burying the carcasses of moles, mice or other small quadrupeds to afford nutriment to their larvæ.

Busaco, a ridge (1,826 feet) on the N. side of the river Mondego, in the Portuguese Province of Beira, 16 miles N. N. E. of Coimbra. Here Wellington, with 40,000 British and Portuguese troops, repulsed the attack of Massena with 65,000 French, Sept. 27, 1810.

Bush Antelope, also called BUSH BUCK, and BUSH GOAT, names common to a number of species of ANTELOPE, natives chiefly of the Southern and Western parts of Africa.

Bushel, a measure of capacity used for corn; or what is called dry measure. It contains 32 quarts, 8 gallons, or 4 pecks.

Bushire, or **Abushehr,** ("father of cities," also variously written Bushahr; in Persian, Bendershehr), a principal port of Persia, on a sandy peninsula on the E. shore of the Persian Gulf, in the Province of Fars. Pop. 27,000, chiefly Persians, Arabs, and Armenians.

Bushmen, a nomadic race of Africa. They are a thin, wiry people, poor and debased near the coast, but greatly improved further inland. They recognize no king or chief, build no houses, have no cattle or goats, do not till the soil, and wear skins for clothing. Their language has a rough, clicking sound, and they resemble the Hottentots.

Bushnell, Horace, an American clergyman and noted writer on religion, morality and other topics; born near Litchfield, Conn., in 1802; died in Hartford, Conn., Feb. 17, 1876.

Bushrangers, in Australia, originally convicts from the English penal stations who took to the bush and became robbers. The thickly wooded mountainous districts afforded them protection, and they soon established a reign of terror. They became so strong that the government had to adopt the most stringent measures to suppress them.

Busiris, a town of ancient Egypt, in the Delta, the chief place where the rites of Isis were celebrated. The name is also given as that of a mythical Egyptian King.

Bussu Palm, a palm growing in the tidal swamps of the Amazon. The stem is only 10 to 15 feet high; but the immense, undivided, coarsely serrate leaves are often 35 feet in length by 4 or 5 in width. The leaves make excellent and durable thatch. The spathe is made into bags, caps, and coarse cloth.

Bust, in sculpture, the representation of that portion of the human figure which comprises the head and the upper part of the body.

Bustamante, Anastasio, a Mexican statesman and revolutionist, born in Jiquilpan, Michoacan, July 27, 1780. In 1837 he was elected President of Mexico. In 1842 he was obliged to retire from the Presidency, and was succeeded by Santa Ana. He served in the Mexican army in the war with the United States, retiring from military service in 1848. He died in San Miguel de Allende, Feb. 6, 1853.

Bustamante, Carlos Maria, a Mexican statesman and historical writer, born in Mexico City in 1774. He studied law and in 1801 began its practice. In 1805 he became editor of the "Diario de Mejico." He held a command under Morelos in 1812, and was captured at Vera Cruz. He was released, and became a member of Congress and held other public offices. He published a history of the Mexican Revolution, and histories of the times of Iturbide and of Santa Ana. He died in Mexico City, Sept. 21, 1848.

Bustard, the name of a genus of European birds.

Butler, borough and capital of Butler county, Pa.; on the Conequenessing creek and the Pennsylvania and other railroads; 26 miles N. of Pittsburg; is in a natural gas, oil, coal, and iron region; and manufactures woolen and silk goods, plate glass, oil-well machinery, and steel cars. Pop. (1910) 20,728.

Butler, Benjamin Franklin, an American lawyer and soldier, born in Deerfield, N. H., Nov. 5, 1818; studied law, and was admitted to the bar in 1841, and became distinguished as a criminal lawyer and politician. He was a member of the State Legislature in 1853, of the State Senate in 1859–1860. Butler had risen to the rank of Brigadier-General of militia; and, at the outbreak of the Civil War, he marched with the 8th Massachusetts Regiment, and, after a check at Big Bethel, was appointed to the command of Baltimore and of Eastern Virginia, with his headquarters at Fort Monroe. In February, 1862, he commanded the military forces sent from Boston to Ship Island, near the mouth of the Mississippi; and, after New Orleans had surrendered to the naval forces under Farragut, he held military possession of the city. Relieved of his command, he acted under Gen. Grant in his operations against Petersburg and Richmond in 1865. Returning to Massachusetts at the end of the war, he took an active part in politics as an extreme radical, advocated the impeachment of President Johnson, and in 1866–1875 was a member of

Congress. In 1877 and 1879 he was defeated as a candidate for Governor of Massachusetts, but in 1882 was elected by a large majority. In 1884 he ran for the Presidency as the candidate of the Greenback and Anti-Monopolist Parties, but carried no State. He died in Washington, D. C., Jan. 11, 1893.

Butler, Benjamin Franklin, an American lawyer, born in Kinderhook Landing, N. Y., Dec. 17, 1795. From 1821 to 1825 he was district-attorney of Albany county. He was elected to the Assembly in 1828, and from 1834 to 1838 was United States Attorney-General. He was also acting Secretary of War during part of Jackson's administration. He died in Paris, France, Nov. 8, 1858.

Butler, John, a royalist leader in the American Revolution, born in Connecticut; died in Niagara in 1794.

Butler, Nicholas Murray, educator, b. Elizabeth, N. J., April 2, 1862. He graduated at Columbia Univ., 1882, studied in Berlin and Paris; from 1885 was assistant, tutor, professor, and dean in the faculty of philosophy, and in 1902 became Pres. of Columbia Univ. His lectures and writings on Education are of the highest value.

Butler, Matthew Calbraith, soldier and statesman, b. near Greenville, S. C., Mar. 8, 1836. He became a lawyer 1857; served as a Confederate in the Civil War; rose to Maj.-Gen.; lost his right leg in battle; was U. S. Senator 1877–95; Maj.-Gen. of Volunteers in the Spanish War and Commissioner on Cuban Evacuation. He died April 4, 1909.

Butler, William, an American army officer, born in Prince William county, Va., in 1759. He served in the Revolution in Pulaski's corps; afterward, under Pickens, Lee, and Greene; won fame as commander of the Mounted Rangers; and, after the war, became (1796) Major-General of militia. He died in Columbia, S. C., Nov. 15, 1821.

Butler, William Orlando, an American army officer and politician, born in Kentucky in 1793. He served in the War of 1812 and in the Mexican War, and became a Major-General in 1846. He was the unsuccessful Democratic candidate for Vice-President in 1848. He died in Carrollton, Ky., Aug. 6, 1880.

Butler, Zebulon, an American military officer, born in Lyme, Conn., in 1731. He served in the Revolutionary War and commanded the garrison at Wyoming Valley at the time of the massacre of July 3, 1778. He died in Wilkesbarre, Pa., July 28, 1795.

Butler University, a co-educational (non-sectarian) institution, in Irvington, Ind.; organized in 1855.

Butt, Isaac, an Irish patriot; the first to make political use of the phrase "Home Rule." He died May 5, 1879.

Butte, a French word used in the United States for an abrupt, and usually isolated, eminence, sometimes appearing in the form of a lofty turret. They occur in picturesque grandeur along the banks of the Columbia river in Oregon, and in the neighborhood of Butte, Mont.

Butte, a city and county-seat of Silverbow co., Mont., is the largest mining town in the world, employing over 10,000 persons in this industry alone, which is principally confined to copper mining, although there are valuable gold and silver mines. The Anaconda copper mines are located here. Pop. (1900) 30,470; (1910) 39,165.

Butter, a fatty substance obtained from milk. Although occasionally made from the milk of goats, buffaloes, etc., it is commonly made from cow's milk. It was used by the ancients as a fuel or as an ointment or hair dressing, but is now used almost wholly as a food.

The great butter making countries of the world are the United States, Denmark, Sweden, Russia, Northern France, Germany, England and Ireland, and, in recent years, Australia must be added to the list. England imports large quantities from Canada, the United States, and Denmark, as well as from Australia. The United States is an exporting country. The Southern countries make much less butter and consume less than the Northern countries. In the South, oils, such as olive oil, take, to a considerable extent, the place of butter,

and, among the poorer classes, butter is an almost unknown article of diet.

The term butter has been occasionally applied to other substances. Certain vegetable oils which are solid at ordinary temperatures, such as palm oil, cocoanut oil, nutmeg oil, etc., are frequently called vegetable butter, and the name mineral butter has sometimes been applied to substances which are wholly different in nature. The Bureau of the Census reports the annual factory production of butter in the United States as over 530,000,000 pounds, valued at over $113,000,000.

Buttercup, the popular name of two or three species of the ranunculus. They are common plants with brilliant yellow flowers.

Butterfield, Daniel, an American soldier, born in Utica, N. Y., Oct. 18, 1831. At the outbreak of the Civil War he was Colonel of the 12th New York Militia. He served in the Peninsular campaign. At Fredericksburg he commanded the 5th Corps, and at Chancellorsville and Gettysburg was chief of staff. He served as chief of staff to Hooker at Lookout Mountain, and Ringgold, and Pea Vine Creek. He was brevetted Major-General in the regular army, but resigned in 1869, and became chief of the United States sub-treasury in New York; died in Cold Spring, N. Y., July 17, 1901.

Butterfly, the popular name of a group of lepidopterous insects.

Butterfly Weed, or PLEURISY ROOT, a plant common in the United States, of which the root has medicinal repute, the infusion being used as a diaphoretic and expectorant.

Butterine, a substance prepared in imitation of butter, from animal or vegetable fats.

Buttermilk, the residue of cream after the butter has been removed by churning. It forms a wholesome and agreeable as well as a nourishing drink in hot weather. It possesses the slightly acid taste from the acidity developed in ripening the cream.

Butternut, the fruit of white walnut, an American tree, so called from the oil it contains. The tree bears a resemblance in its general appearance to the black walnut, but the wood is not so dark in color. The same name is given to the nut of South America, also known as suwarrow, or suwarra nut.

Butter Tree, a name of several trees yielding oily or fatty substances somewhat resembling butter.

Button, a small circular disk or knob of mother of pearl, horn, metal, or other material. Its chief use is to unite portions of a dress together. The ancient method of fastening dresses was by means of pins, brooches, buckles and tie-strings.

Buttresses, in architecture especially Gothic, projections on the outside of the walls of an edifice, extending from the bottom to the top, or nearly, and intended to give additional support to the walls and prevent them from spreading under the weight of the roof.

Butyric Acid, an acid obtained from butter; it also occurs in perspiration, cod liver oil, etc.

Buyukdereh, a town on the European shore of the Bosphorus, a few miles from Constantinople. It is famous for its scenery, and is a favorite residence of the Christian ambassadors.

Buzzard, the English name of the buteo, a genus of birds, and especially of three species. The turkey buzzard is more a carrion vulture than a raptorial bird. They are natives of our Southern States, where they are very useful as scavengers, and are so much appreciated in this regard that in most of the States they are protected by law. In consequence they grow quite tame, and in some places may be considered almost a domesticated fowl. They are about the size of a common turkey, and the species gets its name from a distant resemblance between the two. They are of a dirty black color, and are from 25 to 36 inches long, having an immense span of wing (proportionate), being remarkable for their powerful and graceful flight. Its nest is a mere hollow in the ground with a rampart of loose, dead branches around it. These birds may be seen by hundreds in one locality, hovering over and lighting upon the carcass of a dead animal. They are rarely found N. of Pennsylvania. After the terrible disaster in Galveston, Tex., in 1900, there was an entire disappearance from that city of these useful

birds. The brown buzzard, called also the glead, glede, glade, kite or puttock, feeds on small mammalia, birds, lizards, worms and insects. It makes its nest in trees and ledges of rock.

Buzzard's Bay a bay indenting the S. E. coast of Massachusetts; partly formed by the Elizabeth Islands. Its shores afford many summer resorts. Upon the bay New Bedford is situated.

Byers, Samuel Hawkins Marshall, an American historical and descriptive writer, born in 1838. During the Civil War he served in the Union army. He was taken prisoner; and while in prison in Columbia, S. C., wrote the famous song "Sherman's March to the Sea." He was consul at Zurich, Switzerland, from 1869 to 1884, and Consul-General to Italy in 1885.

By-Law, a private law, the local or subordinate law of a city, town, private corporation or other organization.

Byng, John, British admiral, born 1704, entered the navy in 1727, and served under his father, Admiral George Byng. He was sent to relieve Minorca, blockaded by a French fleet, but failed, it was thought, through hesitation in engaging the enemy. The public odium of the failure was such that the ministry allowed Byng, who was condemned by a court-martial, to be shot at Portsmouth, March 14, 1757.

Bynner, Edwin Lassetter, an American novelist, born in Brooklyn, N. Y., in 1842; was librarian of the Boston Law Library. He died in Boston, Mass., in 1893.

Byron, George Gordon Noel, Lord Byron, a great English poet, was born in Holles street, London, an. 22, 1788. He was the grandson of Admiral John Byron, only son, Captain John Byron, of the Guards, so notorious for his gallantries and reckless dissipation that he was known as 'Mad Jack Byron.' The injudicious indulgence of a fond mother in no way restrained the inclinations of a naturally wayward disposition, and Byron spent an unregulated youth until his eleventh year, when the death of his grand-uncle gave him the title and estates of the family. While a student in Cambridge, he essayed a collection of poems, "Hours of Idleness," which at best, a clever school-boy's production, was treated seriously by Brougham, who criticized it over severely in the Edinburgh "Review." The ire this roused in Byron led to a manifestation of his real powers as a poet, and his reply to this criticism, "English Bards" and "Scotch Reviewers," recalling with its wit and sarcasm the days of Pope, at once made him a man of mark. After travel abroad, his famous poems appeared in due succession, and he lived the life of a man about town in London, until his marriage in 1815 with Miss Millbanke. The truth is not yet known about this unhappy marriage, but within a year they parted, and a judicial separation was arranged. Be the cause, what it may, Byron was blamed by the public, and fell from the position of popular idol to that of the most despised man in England, which he left in 1816, never to return. The next few years were spent in dissipation and literary work, until 1823, when he joined the Greeks in their effort to throw off the yoke of Turkey. The reforms he accomplished in a short time in the poorly equipped and wretchedly disciplined army of the Greeks, proved him to possess skill as an organizer, but his physical condition did not fit him for the rigors of a soldier's life, and he died April 9, 1824, after a short illness brought on by exposure.

Byzantine Empire, also known as the Eastern Roman Empire, comprehended at first in Asia the country on this side of the Euphrates, the coasts of the Black Sea, and Asia Minor; in Africa, Egypt; and in Europe, all the countries from the Hellespont to the Adriatic and the Danube. This survived the Western Empire 1,000 years, and was even increased by the addition of Italy and the coasts of the Mediterranean. It commenced in 395, when Theodosius divided the Roman empire between his two sons Arcadius and Honorius, and ended with Constantine XI., who reigned from 1448 to 1453.

C

C, the third letter of the English alphabet and in others derived from the Latin. "In English," says Ben Jonson, "it might well have been spared, for it has no peculiar sound of its own." It has the simple power of k before a, o, u, and most of the consonants; and the power of s before e, i, y.

Caaba, or **Kaaba**, the Mohammedan temple at Mecca, especially a small oratory within, adored by Mohammedans as containing the black stone said to have been given by an angel to Abraham on the occasion of building the original caaba. The caaba is at the center of the mosque of Mecca, a building called by the Mohammedans El-Haram, i. e., "The Inviolable."

Caaing Whale, one of the Cetacea in the dolphin family, belonging to a genus common in all seas, and oftener stranded than any other whale. The total length varies from 16 to 24 feet, the maximum girth about 10 feet. The caaing whale is very gregarious, and vast shoals of 50 to 100 sometimes impetuously follow their leader ashore when alarmed and surrounded in a bay or fiord. Exciting scenes of this sort have been frequently witnessed on the Faroe Islands and elsewhere. It is recorded that 1,110 were killed in the winter of 1809–1810 at Hvalfiord, in Iceland. In temper the animals are mild compared with some of their allies. They feed chiefly on cuttle-fishes. Many names are given to these common cetaceans —e. g., pilot-whale, black-fish, social whale, grindhval, etc. The common name is derived from the Scotch word caa, meaning "to drive."

Cab, a covered public carriage having two or four wheels, and drawn by one horse. In a hansom cab the driver's seat is behind, not in front. Also the covered part at the rear end of a locomotive which protects the engineer and fireman, and shields the levers, etc.

Cabal, in English history applied to the ministry under Charles II., which consisted of five men famous for their intrigues — Clifford, Ashley, Buckingham, Arlington, and Lauderdale, whose initial letters form this word. The use of this word to signify a body of intriguers was not, however, derived from this circumstance, as some have supposed, for the word cabale, derived from cabala, was used in that sense in French before this time.

Cabala, or **Cabbala**, (that is, reception), a word used by the Jews to denote the traditions of their ancestors regarding the interpretation of the Scriptures.

Cabañas, a town in the Province of Pinar del Rio, Cuba; 35 miles S. W. of Havana; is in a rich sugar-cane section; pop. (1907) 11,552.

Cabanel, Alexandre, a French artist, born 1823; died 1889. He was famous for his portraits, one of which, Miss Catherine Wolfe, in the Metropolitan Museum, New York, is a fair specimen of his work. He also painted imaginative subjects.

Cabbage, a plant in general cultivation for culinary purposes, and for feeding cattle. In the Northern parts of the United States, cabbages are sown about September, kept under glass or frames during winter, and planted out in spring.

Cabbage Flea, the name sometimes given to a small leaping beetle, the larvæ of which destroy seedling

cabbages, as those of an allied species do young turnips.

Cabbage Moth, a species of moth the caterpillar of which feeds on cabbage and turnip leaves, and is sometimes very destructive.

Cabbage Rose, a species of rose of many varieties, supposed to have been cultivated from ancient times, and eminently fitted for the manufacture of rose water and attar from its fragrance. It has a large, rounded, and compact flower.

Cabbage Tree, the English name for the palm genus Areca, and specially for the cabbage palm of the West Indies. It is so called because the bud at the top of its stem is like a cabbage, and the inner leaves which form this bud are eaten like the vegetable now mentioned, though the removal of its bud for the sake of these leaves is the destruction of the magnificent tree.

Cabeiri, sacred priests or deified heroes, venerated by the ancients as the authors of religion and the founders of the human race.

Cabell, William Lewis, an American lawyer; born in Danville, Va., Jan. 1, 1827; was graduated at the United States Military Academy in 1850. During the Civil War he served in the Confederate army; rose to the rank of Brigadier-General; was captured in Kansas in 1864, and held a prisoner of war till April 28, 1865. After the war he practised law in Fort Smith, Ark., and after 1872 in Dallas, Tex. He was mayor of the latter city four times.

Cabell, James Lawrence, an American sanitarian, born in Nelson county, Va., Aug. 26, 1813. He was graduated at the University of Virginia in 1833, where he later filled the chair of anatomy. During the Civil War he had charge of military hospitals for the Confederate Government. He devised measures to check the yellow fever epidemic at Memphis and was president of the National Board of Health from 1879 till his death, in Overton, Va., Aug. 13, 1889.

Cabet, Etienne, a French communist, born in Dijon, Jan. 2, 1788, and educated for the bar, but turned his attention to literature and politics. Cabet sent a French colony to the Red river in Texas, but the colonists who went out in 1848 found Texas anything but a Utopia. Their ill fortune did not deter Cabet from embarking at the head of a second band of colonists. On his arrival he learned that the Mormons had just been expelled from Nauvoo, Ill., and that their city was left deserted. The Icarians established themselves there in 1850. Cabet's efforts, however, were not successful. He was finally obliged to leave Nauvoo and retire to St. Louis, where he died Nov. 9, 1856.

Cabeza, de Vaca, Alvar Nunez, a Spanish explorer, born about 1507. He was second in command in the ill-fated expedition of Panfilo de Narvaez to Florida in 1528. After the loss of their commander, Cabeza de Vaca, with a few survivors, landed W. of the mouth of the Mississippi, and after eight years of wandering and captivity among the Indians, he reached a Spanish colony on the Pacific with three companions. He returned to Spain, and in 1540 was appointed Governor of La Plata. He died about 1564.

Cabinet, a deliberative committee of the executive authority, consisting of the principal members of the Government. The cabinet of the President of the United States is composed of the heads of the several administrative departments of the Government. They are: 1. The Secretary of State, 2. The Secretary of the Treasury. 3. The Secretary of War. 4. The Secretary of the Navy. 5. The Secretary of the Interior. 6. The Postmaster-General. 7. The Attorney-General. 8. The Secretary of Agriculture. 9. The Secretary of Commerce and Labor. They are appointed to office by the President, but their appointments must be confirmed by the Senate, and they generally hold office until their successors are appointed and confirmed. Contrary to foreign systems, the United States cabinet ministers do not have seats in Congress; there is no premier, although the Secretary of State virtually holds that position as leading cabinet officer. The salary of the members of the cabinet is $12,000 annually, except that of the Secretary of State, whose salary is at present $8,000 per year.

Cable is either a large rope or a chain of iron links. Rope cables are made of the best hemp or of wire, twisted into a mass of great compactness and strength. The circumference of hemp rope varies from about 3 inches to 26. A certain number of yarns are laid up left-handed to form a strand; three strands laid up right-handed make a hawser, and three hawsers laid up left-handed make a cable. The strength of a hemp cable of 18 inches circumference is about 60 tons, and for other dimensions the strength is taken to vary according to the cube of the diameter. Wire rope has within recent years largely taken the place of hemp for tow-line and hawsers on board ship.

Cable, George Washington, an American novelist; born in New Orleans, La., Oct. 12, 1844; received a common school education; entered the volunteer service of the Confederate army in 1863 and served till the close of the war; when he obtained employment in a mercantile house; and was on the editorial staff of the New Orleans "Picayune" in 1865–1879. His sketches of creole life in "Scribner's Monthly" proved so successful that in 1879 he turned his entire attention to literature. He has contributed numerous sketches to newspapers and magazines; and published various books.

Cabot, George, an American statesman; born in Salem, Mass., Dec. 3, 1751; educated at Harvard College. In 1791 he became United States Senator for Massachusetts, and proved a steadfast friend of the Washington administration. He died in Boston, April 18, 1823.

Cabot, John, (It. GIOVANNI CABOTO), a Venetian pilot, the discoverer of the mainland of North America, settled as a merchant, probably as early as 1472, in Bristol, England, where he is supposed to have died about 1498. Under letters-patent from Henry VII., dated March 5, 1496, he set sail from Bristol in 1497, with two ships, accompanied by Lewis, Sebastian, and Sancto, his sons, and on June 24th sighted Cape Breton Island and Nova Scotia. Letters-patent were granted Feb. 3, 1498, for a second expedition, but whether any voyages were made under these is doubtful. However, they form the last authentic record of his career.

The same uncertainty exists as to the birthplace of his second son, SEBASTIAN, who, it now appears most probable, was born in Bristol in 1474. Sebastian's name is associated with that of his father in the charter of 1496, and in 1499 he appears to have sailed with two ships in search of a Northwest Passage, and followed the American coast from 60° to 30° N. lat.; but it has been considered doubtful whether this voyage also should not be assigned to his father. In 1519 Cabot returned to Spain from England, and was appointed pilot-major of the kingdom by Charles V., for whom, in 1526, he commanded an expedition which examined the coast of Brazil and La Plata, where he endeavored to plant colonies. The attempt ending in failure, he was imprisoned for a year in 1530, and banished for two years to Oran, in Africa. He seems to have died in London in 1557.

Cabral, Pedro Alvarez, the discoverer (or second discoverer) of Brazil, a Portuguese, born about 1460. In 1500 he received command of a fleet bound for the East Indies, and sailed from Lisbon, but having taken a course too far to the West he was carried by the South American current to the coast of Brazil, of which he took possession in the name of Portugal. He died about 1526.

Cacao, or **Cocoa,** the chocolate tree, and also the powder and beverage made with it obtained from the fruit of this tree. The tree is 16 to 18 feet high, a native of tropical America, and much cultivated in the tropics of both hemispheres, especially in the West India Islands, Central and South America. Its fruit is contained in pointed, oval, ribbed pods 6 to 10 inches long, each inclosing 50 to 100 seeds in a white, sweetish pulp. The term cocoa is a corruption of cacao, but is more commonly used in commerce: cocoa nuts, however, are obtained from an entirely different tree.

Caceres, Andres Avelino, a Peruvian military officer and statesman; born in Ayacucho, Nov. 11, 1838. The imprisonment of Calderon, the President, made him acting President of Peru. Afterward, by a general

election, he was inaugurated President (1886). On the death of President Bermudez in 1894, General Caceres was proclaimed dictator, and, May 10th, was elected President. In 1895 he was overthrown in a revolution headed by ex-Dictator Pierola, who was elected President July 10.

CACAO PLANT.

Cachalot, the sperm of spermaceti whale. The male is from 46 to 60, or even 70 feet long; the female from 30 to 35. They are gregarious, and go in what the fishermen call schools, sometimes with as many as 500 or 600 individuals. The cachalot inhabits the northern seas, but straggles through a great part of the ocean.

Cachao. See HANOI.

Cachar, a district of Assam, India; area, 3,750 square miles. The inhabitants (313,900) are mainly engaged in rice and tea cultivation.

Cache, a hole in the ground for hiding and preserving provisions which it is inconvenient to carry; used by settlers in the Western States and Arctic explorers.

Cachet, Lettre de, a name given especially to letters proceeding from and signed by the kings of France, and countersigned by a secretary of state.

Cacholong, a beautiful mineral, regarded as a variety of semi-opal. It is sometimes called pearl opal, or mother-of-pearl opal. It is generally of a milk-white color, rarely with a yellowish or reddish tinge.

Cactaceæ (named from the cactus), Indian figs. About 800 are known. The fruit of some species is refreshing and agreeable, that of others insipid.

Cactus, an old and extensive genus of Linnæus. The plant, though now seen all over India, undoubtedly came at first from a foreign and a distant country. It grows very extensively in the western and southwestern part of the United States and all over tropical America, usually on arid lands. Once rooted in a place, it spreads so widely abroad that it is difficult to get it out again, and it is believed to impoverish the land of which it takes possession.

Caddoan Indians, a family of North American Indians, comprising the Arikari tribe in North Dakota; the four Pawnee villages, Grand, Tapage, Republican, and Skidi, in the Indian Territory; and the Caddo, Kichai, Wichita, and other tribes, formerly in Louisiana, Texas, and Arkansas.

Cade, Jack, the leader of a popular insurrection in the reign of Henry VI. of England. He collected 20,000 followers, chiefly Kentish men, who, in June, 1450, flocked to his standard, that they might claim redress for the grievances so widely felt. Cade defeated a detachment of the royal forces at Seven Oaks, and obtained possession of London, the King having retired to Kenilworth; but having put Lord Say cruelly to death, and laid aside the appearance of moderation

which he had at first assumed, the citizens rose, gave his followers battle, dispersed them, and put Cade to death, 1450.

Cadence, a close, the device which in music answers the use of stops in language.

Cadenza, a flourish of indefinite form introduced upon a bass note immediately preceding a close.

Cadet, a younger or youngest son; a junior male member of a noble family. Also the name or title given to a young man in training for the rank of an officer in the army or navy, or in a military school. In the United States cadets are trained for military life at West Point, N. Y., and for naval life at Annapolis, Md.

Cadi, or **Kadi,** in Arabic, a judge or jurist. Among the Turks cadi signifies an inferior judge, in distinction from the mollah, or superior judge. They belong to the higher priesthood, as the Turks derive their law from their prophet.

Cadiz, Spain, an important seaport city, capital of a province, which forms a part of Andalusia. It reached its highest prosperity after the discovery of America, when it became the depot of all the commerce with the New World; declined greatly as a commercial city after the emancipation of the Spanish colonies in South America; but again revived, owing partly to the extension of the Spanish railway system, and partly to the establishment of lines of steamers.

Cadiz is one of the most ancient towns in Europe, having been built by the Phœnicians, under the name of Gaddir ("fortress"), about 1100 B. C. It afterwards passed into the hands of the Carthaginians, from whom it was captured by the Romans, who named it Gades, and under them it soon became a city of vast wealth and importance. Occupied afterward by the Goths and Moors, it was taken by the Spaniards in 1262.

In 1898 it was the rendezvous of the vessels of the Spanish navy which, for a time during the war between the United States and Spain, were expected to make a demonstration against some of the principal American cities on the Atlantic seaboard. Pop. (1900) 69,382.

Cadmium, a diatomic metallic element, discovered in 1818. It is found in most zinc ores. One of its compounds is the pigment known as Cadmium yellow, used for fireworks, and in calico-printing.

Cadmus, according to ancient Greek tradition, the leader of a colony of Phœnicians, who settled at a very early date in Bœotia, and founded the city of Thebes, B. C. about 1450. His history is largely fabulous.

Caduceus, Mercury's rod; a winged rod entwisted by two serpents borne by Mercury as an ensign of quality and office. In modern times it is used as a symbol of commerce, Mercury being the god or commerce.

Cadwalader, George, an American lawyer and soldier; born in Philadelphia, in 1804. He practised law till 1846; was made brigadier-general of volunteers; and won distinction at Chapultepec. He resumed his law practice till 1861; became major-general of State volunteers; was placed in command at Baltimore; accompanied Patterson's expedition to Winchester (1861); and, as one of a military board, directed the United States army operations. He died in Philadelphia, Pa., Feb. 3, 1879.

Cadwalader, John, an American soldier, born in Philadelphia, Jan. 10, 1742. At the outbreak of the Revolution he was placed in command of a battalion and soon became brigadier-general. He fought at Trenton, Brandywine, Germantown, and Monmouth. He died in Shrewsbury, Pa., Feb. 10, 1786.

Caen, a town of France, in Normandy, chief place in the department of Calvados, 125 miles N. W. of Paris, and about 9 miles from the mouth of the Orne. Two remarkable churches are St. Etienne or Church of the Abbaye-aux-Hommes, built by William the Conqueror, who was buried in it, and La Ste. Trinité or Church of the Abbaye-aux-Dames, founded by the Conqueror's wife. Pop. 44,524.

Caerleon, a town of England on the Usk, 18 miles S. of Monmouth. Many fine Roman remains have been, and are still, found here.

Cæsar, Caius Julius, son of a family of the Julian gens, claiming

descent from Iulus, son of Æneas. The origin of the name is uncertain.

Cæsar, Caius Julius, son of a Roman prætor of the same name, was born July 12, 100 B. C., according to Mommsen in 102 B. C. One of the greatest, if not the greatest of military commanders, he was likewise peerless in his time as politician and statesman. He overcame all his enemies in the field, and was the dictator, and virtually the first emperor of Rome. During the year 46 B. C. he conferred a benefit on Rome and on the world by the reformation of the calendar, which had been greatly abused by the pontifical college for political purposes. After quelling an insurrection which broke out in Spain, where Pompey's sons, Cneius and Sextus, had collected an army, he received the title of "Father of his Country," and also of imperator, was made dictator and præfectus morum for life, and consul for 10 years; his person was declared sacred, and even divine; he obtained a body-guard of knights and senators; his statue was placed in the temples; his portrait was struck on coins; the month Quintilis was called Julius in his honor, and on all public occasions he was permitted to wear the triumphal robe. He proposed to make a digest of the whole Roman law for public use, to found libraries for the same purpose, to drain the Pontine Marshes, to enlarge the harbor of Ostia, to dig a canal through the Isthmus of Corinth, and to quell the inroads of the barbarians on the E. frontiers; but in the midst of these vast designs he was cut off by assassination on the Ides (15th) of March, 44 B. C.

Cæsarea, the ancient name of many cities, such as: (1) Cæsarea Philippi in Palestine, N. of the Sea of Galilee, rebuilt by Philip, tetrarch of Galilee, son of Herod the Great. (2) Cæsarea, on the shores of the Mediterranean, about 55 miles N. W. from Jerusalem, enlarged and beautified by Herod the Great, and named in honor of Cæsar Augustus; the place where St. Paul was imprisoned two years (Acts xxiii–xxv). (3) The capital of Cappadocia, in Asia Minor.

Cæsarian Operation, the most serious operation in midwifery, and only resorted to to save life.

E. 27.

Cæsarion, son of Julius Cæsar and Cleopatra, put to death by order of Augustus.

Cæsars, The Era of, also known as the Spanish Era, a period of time reckoned from Jan. 1, 38 B. C., being the year following the conquest of Spain by Augustus. It was much used in Africa, Spain, and the S. of France; but by a synod held in 1180 its use was abolished in all the churches dependent on Barcelona. Pedro IV. of Arragon abolished the use of it in his dominions in 1350. John of Castile did the same in 1383. It was used in Portugal till 1415, if not till 1422. The months and days of this era are identical with the Julian calendar, and to turn the time into that of our era, subtract 38 from the year; but if before the Christian era, subtract 39.

Caesium, an element discovered by Bunsen in 1860. The pure metal is rare; it is similar to potassium, and has such an affinity for oxygen, it will burst into flame when exposed to the air.

Caffeine, Theine, or **Guaranine,** an alkaloid found in tea, coffee and other plants used as beverages. About 1 per cent. is found in coffee, and from 2 to 4 per cent. in tea. It has no nutritive value. In small doses as in a cup of tea or coffee it helps the circulation. In large doses, or after prolonged drinking of tea or coffee, it paralyses the heart's action. It is used in medicine for various nervous ailments. It is the element that makes tea and coffee drinking so injurious for some persons.

Cagayan, an island of the Philippines; the largest of six small islets, known as the Cagayan-Sulu group. It is 5 miles wide and 8 miles long. Pop. (1900) 3,500. There are mountains attaining a height of 1,100 feet. The chief products are tobacco and sugar. There are pearl and shell fisheries. Cagayan was sold by Spain to the United States, with Sibutu, in 1900, upon payment of $100,000, having been inadvertently excluded from the terms of the treaty of peace.

Cagliari, Paul, also known under the name of Paul Veronese, a painter of Verona, born 1528; died 1588. See VERONESE, PAUL.

Cagliostro, Alessandro, Count of, (real name GIUSEPPE BALSAMO), a celebrated charlatan; born in Palermo, Italy, June 8, 1743. The discovery of the philosopher's stone, the preparation of a precious elixir vitæ, etc., were the pretenses by means of which he extracted considerable sums from credulous people. Died in 1795.

Caguas, a town in the department of Guayama, Porto Rico; on the main road between Ponce and San Juan; 18 miles S. E. of the latter; is in a section containing hot springs and valuable quarries of marble and limestone. Pop. (1910) 10,354.

Caiaphas, a Jew, was the high-priest at the time when the crucifixion took place. He was deposed A. D. 35, and Jonathan, the son of Annas, appointed in his stead.

Caicos, a group of islands belonging geographically to the Bahamas, but annexed in 1874 to Jamaica. The North, West, East, Grand, and other Caicos, have, together with Turk's Islands, an area of 223 square miles. Pop. (1891) 4,745. Salt and sponges are their chief products.

Caillie, Réné or Auguste, a French traveler; born in Poitou, France, Sept. 19, 1799. Having gone to Senegal, he learned about 1826 that the Geographical Society of Paris had offered a premium of 10,000 francs to the first traveler who should reach Timbuctoo. He started from Kakondy in Sierra Leone, April 18, 1827, and after some delay caused by illness, reached the mysterious city, April 20, 1828. Caillie died near Paris, May 7, 1839.

Cain, the first-born of the human race, and the first murderer. He became an outcast, traveling to the E. of Eden, where he built a city and had a son, named Enoch. The Jewish tradition is, that he was slain by Enoch.

Caine, Thomas Henry Hall, an English novelist and dramatist; born in Runcorn, Cheshire, Eng., May 14, 1853. His novels, which are striking in their pictures of human motives and passions, are read throughout the world.

Cairn, a round or conical heap of stones erected as a sepulchral monument. They are found on the hills of England, Wales, and Scotland, and some have assigned to them a peculiar character, as receptacles for the bodies of criminals burnt in the wicker images of the Druids, etc.

Cairngorm Stone, a mineral; a variety of quartz of a smoky yellow to smoky brown, and often transparent, but varying to brownish-black, then nearly opaque in thick crystals.

Cairo, (Arab. Musr el Kaherah, "the victorious capital"), the capital of modern Egypt, situated in a sandy plain between the right bank of the Nile and the ridge of Mokattam, near the point of the delta of the Nile.

The remarkable edifices of Cairo comprise many of the finest remains of Arabian architecture, all dating from the time of the ancient sultans of Egypt. Among these, besides mosques, chapels, and Coptic churches, are several of the ancient gates, an aqueduct for conveying water from the Nile to the citadel, the works of the citadel, and the palace and well of Joseph. At Old Cairo are the seven towers, still called the "Granary of Joseph," and serving their ancient purpose. In the island of Rhoda is the celebrated Nilometer. On the S., outside the walls, are the tombs of the Mamelukes, and on the N. E. the obelisk of Heliopolis. There are also a magnetic observatory, and the College of El Ahzar, the principal university of the Mohammedan world. Pop. (1897) 570,062.

Cairo, city, port of delivery, and capital of Alexander county, Ill.; at junction of the Mississippi and Ohio rivers; on the Illinois Central and other railroads; 150 miles S. E. of St. Louis. It is the trade center of a large farming section; has passenger and freight steamer connections with all important river ports; and has a $3,000,000 steel railroad bridge across the Ohio. Pop. (1910) 14,548.

Caisson, a military term, denoting a wooden chest to hold ammunition; formerly applied to the ammunition-wagon itself. In engineering a caisson is a wooden case or frame sunk in the beds of rivers, etc., to keep out the water during the laying of the foundations of a bridge, etc.

Cajabamba, capital of the province of Chimborazo, in Ecuador, 102 miles S. of Quito, on the arid plateau

of Topi, at an elevation of 9,480 feet. Pop. 16,000. The former town of Riobamba, founded on this site in 1533, was in 1797 overwhelmed by an earthquake in which 30,000 lives were lost.

Cajamarca, a department in the N. W. of Peru, between the W. chain of the Andes and the Amazon. A railway connects it with the Pacific, and there is a large farming and cattle-raising industry. Area, 12,538 square miles; pop. (1896) 442,412. Capital, Cajamarca; pop. 12,000.

Calabar, a maritime district of West Africa on the Bight of Biafra, intersected by two rivers, called respectively Old and New Calabar, under British protection. Duke Town and Creek Town, the chief towns on Old Calabar river, are stations of British missionaries.

Calabash, a tree about 30 feet high, found in some places wild, in others cultivated, in the West Indies and other tropical parts of America. The fruit of the tree is inclosed in a shell used by the natives of the Caribbee Islands for drinking cups, pots, musical instruments, and other domestic utensils.

Calabash Nutmeg, a tree of the order Anonaceæ, introduced into Jamaica probably from Western Africa. The fruit resembles small calabashes; hence the name. It is called also American nutmeg, or Jamaica nutmeg.

Calabria, a compartmento of Italy (the "toe" of the boot"), between the Ionian and Tyrrhenian seas; divided into the provinces of Cosenza, Reggio, and Catanzaro; area 5,819 square miles; pop. 1,429,054. On Dec. 28, 1908, Calabria and Sicily were visited by an earthquake and tidal wave, causing an appalling loss.

Caladium, a genus of endogenous plants, the typical one of the family caladieæ. They are cultivated in greenhouses here, and flourish in warmer parts of the world. The leaves of the caladium are boiled and eaten in the West Indies.

Calais, a fortified seaport town of France, in the department of Pas-de-Calais, on the Strait of, and 25 miles S. E. of Dover, and distant 184 miles by rail from Paris. The Old Town or Calais proper has a citadel, and was formerly surrounded by fortifications; but the modern suburb of St. Pierre les Calais having been amalgamated with Calais proper, both are now surrounded with forts and other works, to which morasses lend additional strength. In 1347 Calais was taken by Edward III. of England, after a siege of 11 months. In 1558 it was retaken by the Duke of Guise, being the last relic of the French dominions of the Plantagenets, which at one time comprehended the half of France. Pop. (1901) 59,793.

Calamianes, an island group of the Philippine Archipelago. Their surface is mountainous, and richly wooded, producing rice, wool, cacao, and the bird's nests used for food. Busuanga, Calamian and Linacapan are the largest of the islands. Area about 340 square miles; pop. over 20,000.

CALADIUM.

Calamus, the reed pen which the ancients used in writing, made of the stem of a reed growing in marshy places, of which the best were obtained from Egypt. The stem was first softened, then dried, and cut and split with a knife, as quill pens are made. To this day the Orientals generally write with a reed.

Calamus, the traditional name of the sweet flag, which is no doubt the "calamus aromaticus" of Roman authors, and probably the sweet calamus and sweet cane of Scripture.

Calas, Jean, a French victim of fanaticism; born in 1698. He was a Protestant, and was engaged as a merchant in Toulouse, when his eldest son committed suicide; and as he was known to be attached to the Roman Catholic faith, a cry arose that he had on that account been murdered by his father. Jean Calas and his whole family were arrested, and a prosecution instituted against him, in support of which numerous witnesses came forward. The parliament of Toulouse condemned him, by eight voices against five, to be tortured and then broken on the wheel, which sentence was carried out in 1762, his property being also confiscated. Voltaire became acquainted with his family, and procured a revision of the trial, when Calas was declared innocent, and his widow pensioned.

Calatafimi, a town of Sicily near its W. end, with a ruined Saracenic castle. Near it is the scene of Garibaldi's first victory over the Neapolitans in 1860.

Calatrava la Viega, a ruined city of Spain, on the Guadiana, 12 miles N. E. of Ciudad Real. Its defence against the Moors, undertaken by Raymond, abbot of Fitero, and Diego Velasquez in 1158, after it had been abandoned by the Templars, is famous on account of its having originated the Order of the Knights of Calatrava, which was instituted at Calatrava in 1158, by King Sancho III. of Castile, and was at several periods associated with the Cistercian monks. Their almost uniform success against the Moors gave rise to rashness, and in 1197 they were defeated and nearly exterminated, the survivors transferring the seat to the castle of Salvatierra.

Calaveras Grove, Cal., one of the famous groves of big trees, and the nearest to San Francisco, measures 1,100 yards by 70 yards, and contains about 100 trees. It is State property.

Calcareous, a term applied to substances partaking of the nature of lime, or containing quantities of lime. Thus we speak of calcareous waters, calcareous rocks, calcareous soils. Calcareous spar (crystallized carbonate of lime) is found crystallized in more than 700 different forms, all having for their primitive form an obtuse rhomboid. The rarest and most beautiful crystals are found in Derbyshire, England.

Calceolaria, a well known and beautiful genus of plants. The species, which are numerous, come from South America, chiefly from the western slope or side of the Andes. The greater number have yellow flowers, others are purple, while in a few the two colors are intermingled. Various calceolarias are cultivated in the United States.

Calciferous Epoch, one of the subordinate divisions of the Lower Silurian System of North America. The division is characterized by the presence of calcareous sandstones and limestones.

Calcination, the operation of expelling from a substance by heat, either water or volatile water combined with it. Thus, the process of burning lime, to expel the carbonic acid, is one of calcination.

Calcite, Calcareous Spar, or **Calc-spar,** the name usually given by mineralogists to carbonate of lime, rhombohedral in its crystallization. It differs from aragonite only in crystallization. Calcite is one of the commonest minerals.

Calcium, a dyad metallic element. Calcium is a yellowish white, ductile, malleable metal, which oxidizes in damp air; it decomposes water, and dissolves easily in dilute acids.

Calcium Carbide, a chemical compound of calcium and carbon. It is a hard, bluish-black, clear crystalline body, and is impervious to light, and insoluble in all known solvents. It is used generally for the production of acetylene and the reduction of iron. See ACETYLENE.

Calcium Light, a brilliant light produced by directing the flame of an oxy-hydrogen blow-pipe against a block of compressed quicklime. It has been used on the stage for many years, and by the aid of colored glasses very charming effects are produced.

More recently it has been employed in lanterns for projecting photographic and biographic pictures on a screen.

Calc-sinter, a carbonate of lime, the substance which forms the stalactites and stalagmites that beautify many caves.

Calculating Machine, a piece of mechanism for assisting the human intellect in the performance of arithmetical operations. Among modern calculating machines are the slide-rule and bank and cash registers.

Calculus, the medical term for what is popularly known as stone. Calculi vary in size from a pin's head to a pigeon's egg, and even larger, and weigh from a few grains to several ounces. They derive their special name and character as well from the organs of the body in which they are found as from the constituents of which they are composed.

Calculus, The Infinitesimal, or **Transcendental Analysis,** a branch of mathematical science.

Calcutta, (literally, the ghaut or landing place of Kali, from a famous shrine of this goddess), capital of British India, and of the presidency and province of Bengal; situated on the left bank of the Hooghly, a branch of the Ganges, about 80 miles from the Bay of Bengal. The Hooghly is navigable up to the city for vessels of 4,000 tons or drawing 26 feet. The port of Calcutta extends for about 10 miles along the river, and is under the management of a body of commissioners. Opposite the city it is crossed by a great pontoon bridge, which gives communication with Howrah for vehicles and foot-passengers, and can be opened at one point to let vessels pass up or down. Beside the accommodation for shipping furnished by the river, there are also several docks. The trade is very large, Calcutta being the commercial center of India. There is a very extensive inland trade by the Ganges and its connections, as also by railways (the chief of which start from Howrah), while almost the whole foreign trade of this part of India is monopolized by Calcutta. In 1773 Calcutta became the seat of British government for the whole of India. Since then the history of Calcutta has been an almost unbroken record of progress and prosperity. The pop. in 1872 of the city proper was 447,601; in 1901, 1,121,664.

Caldecott, Randolph, an English artist; born in Chester, England, March 22, 1846. He will chiefly be remembered by the admirable "Caldecott's Picture-books," which began in 1878, with "John Gilpin" and "The House that Jack Built." After vain attempts to restore his health by trips abroad he died in St. Augustine, Fla., Feb. 12, 1886.

Calderon, Francisco Garcia, a Peruvian jurist and statesman; born in Arequipa in 1834. He became a member of Congress in 1867; accepted the treasury portfolio in 1868, and, after the Chilean occupation in 1883, became the head of the provisional government. Being captured by the enemy, he was retained as a prisoner at Valparaiso, and, although his election as President was confirmed, he was unable to take the office. After his release he figured prominently in public affairs. He died Sept. 21, 1905.

Caldwell, Charles Henry Bromedge, an American naval officer; born in Hingham, Mass., June 11, 1828. In the Civil War he commanded the "Itasca," taking part in the bombardment of Forts Jackson and St. Philip and the Chalmette batteries, and in the capture of New Orleans. He was promoted commodore in 1874. He died in Boston, Mass., Nov. 30, 1877.

Caldwell, James, an American patriot; born in Charlotte county, Va., in 1734. During the growing antagonism between the Colonies and Great Britain, he warmly took the side of the former, and when hostilities began, became chaplain to the New Jersey brigade. He was shot by a sentinel, at the Point, New York, Nov. 24, 1781, and buried at Elizabethtown, N. J., where a costly marble monument covers the remains of the "soldier-parson."

Caledonia and **Caledonians,** the names by which the N. portions of Scotland and its inhabitants first became known to the Romans.

Caledonia, New, a French island in the Pacific Ocean; lying some 700 miles E. of Australia. Its length N.

W. to S. E. is 250 miles, the breadth being about 35 miles. It is surrounded by coral reefs, at a distance of from 5 to 18 miles.

New Caledonia was taken possession of by the French on Sept. 24, 1853, and a small colony was formed there. During the time of the second empire it was employed as a place of banishment for criminals, a purpose which it still serves. In 1872, by a decree of the National Assembly at Versailles, New Caledonia was fixed on as the place to which the condemned Communists should be transported. The number of the condemned amounted to more than 3,000. In 1902 the total population was 51,033, of whom 8,384 were European civilians, 1,506 military, 10,757 penal, 3,041 Asiatics, and 27,345 natives.

Calendar, a systematic division of time into years, months, weeks, and days, or a register of these or similar divisions. The present calendar was adopted in the 16th century, the Julian, or old Roman calendar having become grossly erroneous.

Luigi Lilio Ghiraldi, frequently called Aloysius Lilius, a physician of Verona, projected a plan for amending the calendar, which, after his death, was presented by his brother to Pope Gregory XIII. To carry it into execution, the Pope assembled a number of prelates and learned men. In 1577 the proposed change was adopted by all the Catholic princes; and in 1582 Gregory issued a brief abolishing the Julian calendar in all Catholic countries, and introducing in its stead the one now in use, under the name of the Gregorian or reformed calendar, or the "new style," as the other was now called the "old style." The amendment ordered was this: Ten days were to be dropped after the 4th of October, 1582, and the 15th was reckoned immediately after the 4th. Every 100th year, which by the old style was to have been a leap year, was now to be a common year, the fourth excepted; that is, 1600 was to remain a leap year, but 1700, 1800, 1900 to be of the common length and 2000 a leap year again. In this calendar the length of the solar year was taken to be 365 days, 5 hours, 49 minutes, and 12 seconds, the difference between which and subsequent observations is immaterial. In Spain, Portugal, and the greater part of Italy, the amendment was introduced according to the Pope's instructions. In France the 10 days were dropped in December, the 10th being called the 20th. In Catholic Switzerland, Germany, and the Netherlands, the change was introduced in the following year; in Poland in 1586, in Hungary in 1587. Protestant Germany, Holland, and Denmark accepted it in 1700, and Switzerland in 1701. In England the Gregorian calendar was adopted in 1752. The 1st of January was then adopted as the beginning of the legal year, and it was customary for some time to give two dates for the period intervening between January 1 and March 25, that of the old and that of the new year, as January 175 2/3. Russia alone retains the old style, which differs 12 days from the new.

Calends, the first day of the month among the Romans.

Calgary, a city in the Province of Alberta, Canada; at junction of the Bow and Elbow rivers and on the Canadian Pacific railway; 642 miles E. of Vancouver, 840 miles W. of Winnipeg, and near the foothills of the Rocky Mountains. It is the See of an Anglican and a Roman Catholic bishop; contains Western Canada College, Provincial Normal School, St. Hilda's Ladies' College, Convent of the Sacred Heart, General and Holy Cross hospitals, and a sanitarium for consumptives; is in an unusually rich wheat-growing and mixed-farming region; has large live-stock interests; and has an annual wholesale trade exceeding $25,000,000. Pop. (1906) 11,947.

Calhoun, John Caldwell, an American statesman; born in Abbeville district, S. C., March 18, 1782; graduated with distinction at Yale College in 1804, and was admitted to the South Carolina bar in 1807. After serving for two sessions in the Legislature of his native State, he was elected to Congress in 1811. From that time until his death he was seldom absent from Washington, being nearly the whole time in the public service, either in Congress or in the Cabinet. When he first entered Congress, the difficulties with England were fast approaching actual hostili-

ties, and he immediately took part with that section of the dominant party, whose object it was to drive the still reluctant administration into a declaration of war. They succeeded, and, as a member of the Committee on Foreign Relations, he reported a bill for declaring war, which was passed in June, 1812. When Monroe formed his administration in 1817, Calhoun became Secretary of War, a post which he filled with great ability for seven years.

In 1824, he was chosen Vice-President of the United States under John Q. Adams, and again, in 1828, under General Jackson. With the latter he did not long continue on amicable political relations, but entered into fierce opposition, when the President, and a majority of Congress, determined to enforce submission to the law of 1828, imposing a heavy protective tariff. It was at this period that he broached his famous "Nullification Doctrine," which is substantially, that the United States is not a union of the people, but a league or compact between sovereign States, any of which has a right to judge when the compact is broken, and to pronounce any law to be null and void which violates its conditions. In short, Calhoun was the first great advocate of the doctrine of Secession. From this time forward, for the last 17 years of his public service, he hardly aspired to be considered a national statesman acting for the whole country; he was content, even proud, to be viewed only as a Southern statesman. Hence his advocacy of the extreme doctrine of State-Rights; his censure of the Missouri Compromise, passed 13 years before, when he was himself in the Cabinet; his support of all measures tending to the extension of slave-holding territory; and, finally, his proposal to amend the Constitution by abolishing the single office of the presidency, and creating two presidents, one for the North, and the other for the South, to be in office at the same time. The place in which he advocated these doctrines was the floor of the United States Senate, where he continued for the rest of his life, except for a short time at the close of Mr. Tyler's administration, when he accepted the office of Secretary of State. He died in Washington, March 31, 1850.

Calico Printing, the art of producing on calico or cotton cloth variegated patterns by the process of printing, the object as a rule being to have the colors composing the designs as fast as possible to washing and other influences.

Calicut, a seaport of India, in the presidency of Madras, on the Malabar coast, which was ceded to the British in 1792. It was the first port in India visited by Europeans. It manufactures cotton cloth, to which it has given the name calico. Pop. (1901) 75,500.

California, a State in the Western Division of the North American Union, bounded by Oregon, Nevada, Arizona, Lower California, and the Pacific Ocean; land area, 155,980 square miles; admitted to the Union Sept. 9, 1850; number of counties, 57; pop. (1900) 1,486,053; (1910) 2,377,549; capital, Sacramento.

The surface of the State is very mountainous, being traversed by two ranges extending in a N. W. and S. E. direction. The Coast Range, consisting of a number of broken ridges, has an average width at the base of 65 miles, and varies from 1,000 to 8,000 feet in height. The highest peak is Mt. Ripley, 7,500 feet. The Sierra Nevada Mountains join the Coast Range and extend along the E. border of the State for about 450 miles, with nearly 100 peaks exceeding 10,000 feet in height, the highest being Mt. Whitney, 14,898 feet, Mt. Tyndall, 14,386 feet, and Mt. Shasta, 14,350 feet. Between these ranges is a basin, at some early time the bed of a lake, about 450 miles in length, the N. section known as the Sacramento Valley, and the S. section as the San Joaquin Valley. This valley contains Tulare Lake, and is drained by the Sacramento and San Joaquin rivers. The coast line is irregular, with numerous capes and bays, affording many good harbors. San Francisco Bay is the largest and best harbor on the Pacific coast.

California was for many years the first State in the Union in the production of gold, but it has now dropped to second place. As early as 1841 gold was obtained by washing

near the San Fernando Mission. In 1848 the discovery at Coloma of large gold deposits started the up-building of California. At first mining was carried on by washing the river gravel, and in 1851 sluices were built through which the water was passed. These sluices were filled with blocks of wood or stones, which collected the gold as it sank. Digging was carried on also, and in 1852 an hydraulic system was introduced, by which great streams of water were turned against the gravel banks. This process was successful, but by it the banks were rapidly swept away and the detritus threatened to choke the rivers, so that its use was soon prohibited by law. Gold is found in the metallic state, often associated with silver and other metals, on the slopes of the Sierras. It is also found in streams and alluvial deposits in coarse grains, and quartz deposits where it is extracted by amalgamation. A very rich quality of silver occurs in small quantities, and magnetic iron and cinnabar abound in the Sierras. Pyrites of iron and copper are found in gold-bearing quartz, and a rich variety of argentiferous galena occurs in San Bernardino county. Other valuable mineral products are: tin, plumbago, cobalt, granites, marbles, sandstones, hydraulic limestones and bituminous coal. Diamonds, onyx and other precious stones abound, and bitumen and petroleum are found in many places. In 1898–1899 there was a great boom in the mineral oil productions in the Los Angeles district, and, although the business is still in its infancy, it bids fair to become one of California's greatest industries. In Los Angeles alone, in 1900, there were 750 wells working and many new ones under construction. In 1898, California produced 756,483 fine ounces of gold, valued at $15,637,900; 642,300 fine ounces of silver, valued at $830,448; 31,092 flasks (of 76½ pounds each) of quicksilver, and 2,257,207 barrels of petroleum, valued at about $1 per barrel. In 1900, the Director of the Mint estimated the gold output at $15,197,800, an increase over that of the preceding year, while the silver output decreased to $494,580.

The soil varies with the surface conditions of the State. In the elevated portions it is rich, mellow, and easily worked, and timber land abounds. In the lower portions the soil varies from a rich loam to a heavy clay or adobe. What was formerly considered desert land can now, under irrigation, be turned into valuable agricultural districts. Agriculture and commerce flourish, and the State is the centre of great financial interests.

The public schools are liberally maintained. For higher education there are 96 public high schools, 63 private secondary schools, four public and three private normal schools, 12 universities and colleges for men and for both sexes and Mills College and the College of Notre Dame at San Jose for women. The principal universities and colleges are, University of California (opened 1869, non-sectarian); Leland Stanford Junior University (1891, non-sectarian); St. Ignatius College (1855, Roman Catholic); Santa Clara College (1851, Roman Catholic), and the University of Southern California (1880, Methodist Episcopal).

The strongest religious denominations in the State are the Roman Catholic, Methodist Episcopal, Presbyterian, Congregational, Baptist, Protestant Episcopal, Lutheran, and Disciples of Christ.

The total length of railroads within the State, Jan. 1, 1900, was 5,461 miles, of which 169 miles were constructed during the previous year. The assessed valuation of railroad telegraph, and express property was $46,394,275. In 1901 there were 1,659 post offices of all grades, and 681 periodicals, of which 111 were daily, 2 tri-weekly, 21 semi-weekly, 435 weekly, 1 bi-weekly, 6 semi-monthly, 100 monthly, 3 bi-monthly, and 2 quarterly.

The assessed valuation of all taxable property in 1900 was $1,218,228,588. The total bonded debt Sept. 1, 1900, was $2,281,500, of which $1,526,500 was held in trust for the public schools and $751,000 for the State University. There were also outstanding bonds aggregating $600,000, not included in the public indebtedness because payable out of collections by the harbor commissioners. Of this amount the State School Funds held $200,000.

The Governor is elected for a term of four years and receives a salary of $10,000 per annum. Legislative sessions are held biennially, beginning on the first Monday after January 1, and are not limited in duration. The legislature has 40 members in the Senate, elected for 4 years, and 80 in the House, elected for 2 years; salary of each, $1,000 per term. There are 11 Representatives in Congress under the last census.

In 1869 the completion of the Central Pacific R. R. advanced the prosperity of the State. From 1870 to 1890 the agitation against Chinese immigration led to the Exclusion Act. In 1906 a disastrous earthquake caused great destruction in San Francisco and other coastal towns. The same year the Anti-Japanese agitation led to international representations, and raised the question of State rights as affecting Federal interests.

California, Gulf of, or **Sea of Cortes,** an arm of the Pacific Ocean, separating Lower California from the Mexican mainland. It is 700 miles in length and varies in width from 40 to 100 miles.

California, Lower, a territory of Mexico, comprising a peninsula jutting into the Pacific Ocean, and separated from the mainland throughout its length by the Gulf of California. It is nearly 800 miles in length, and in different places 30 to 120 miles wide; area 58,328 square miles. It is mountainous and arid, but possesses valuable agricultural and mineral resources. The chief towns are Loreto and La Paz, the capital. Pop. (1900) 47,082, of whom perhaps a half are Indians.

California, University of, a non-sectarian coeducational seat of learning in Berkeley, Cal. The undergraduate department is located at Berkeley, 9 miles from San Francisco; the astronomical department and Lick Observatory at Hamilton, Santa Clara county, and the professional schools at San Francisco. At Menlo Park the great Flood Mansion and grounds, donated in 1898, comprise a commercial college endowment. The university receives a handsome sum from the National Government for its agricultural experiment station; the State adds a large appropriation; and the whole is spent on four stations and several sub-stations, where many important horticultural experiments are made. The university in 1899 accepted plans for a new set of buildings to cost about $7,500,000. The principal benefactor of the university, since 1896, has been Mrs. Phœbe A. Hearst, widow of Senator Hearst. Her gifts have reached millions of dollars. As a result of these and other resources of endowment, the institution has become one of the richest of American universities.

Caligula, Caius Cæsar Augustus Germanicus, a Roman emperor, son of Germanicus and Agrippina; born A. D. 12, in the camp at Antium. He succeeded Tiberius, A. D. 37, and made himself very popular by his mildness; but at the end of eight months he was seized with a disorder, caused by his irregular mode of living, which appears to have deranged his intellect. After his recovery he suddenly showed himself the most cruel and unnatural of tyrants. He was assassinated by a band of conspirators A. D. 41.

Caliper Compasses, compasses made with arched legs to measure the diameters of cylinders or globular bodies, or with straight legs and retracted points to measure the interior diameter or bore of anything.

Caliph, Calif, or **Khalif,** the title borne by the successor of Mohammed in temporal and religious authority.

Calisaya Bark, a variety of Peruvian or cinchona bark, namely, that of Cinchona calisaya or flava.

Calisthenics, or **Callisthenics,** a name for exercises for promoting gracefulness and strength, and comprises the more gentle forms of gymnastics, especially for girls.

Calixtines, a Christian sect in Bohemia, the more moderate of the two great sections into which the Hussites were divided in 1420. Unlike the Taborites — the other section — they did not seek to subvert the government of the Church of Rome, but demanded the restoration of the cup to the people in the celebration of the Supper; the preaching of the Gospel in primitive simplicity and purity; the separation of the priests from

secular, and their entire devotion to spiritual, concerns; and, the prevention or punishment, by lawful authority, of "mortal" sins. The council of Basel, in 1433, to end the disastrous Bohemian war, invited envoys from the Hussites. Procopius Rasa and others appeared, but the effort failed. Afterward the council sent Æneas Sylvius into Bohemia. He, by conceding the use of the cup to the Calixtines, reconciled them to the Church of Rome.

Calixtus, the name of several Popes.

Calixtus (properly CALLISEN), **Georg,** a German theologian of the Lutheran Church; born in Schleswig in 1586. He wrote against the celibacy of the clergy, and proposed a reunion of Catholics and Protestants upon the basis of the Apostles' creed. He died in 1656.

Calkins, Gary Nathan, an American scientist; born in Valparaiso, Ind., Jan. 18, 1869. He was graduated at the Massachusetts Institute of Technology in 1890; had charge of scientific expeditions to Alaska in 1896 and 1897; and in 1900 was instructor in Zoölogy at Columbia University.

Callahan, James Morton, an American publicist; born in Bedford, Ind., Nov. 4, 1864. He was graduated at the University of Indiana in 1894, and became lecturer on American Diplomatic History at Johns Hopkins in 1898.

Callao, the port of Lima, Peru, lies 7 miles S. W. of Lima by rail, on a small bay. The town possesses a floating dock, and fine harbor works, embracing an area of 520 acres, with extensive pier and dock accommodation; and the spacious roadstead, sheltered by the island of San Lorenzo, is one of the safest in the world. The present Callao dates only from 1746, when the original city, a short distance to the S., was destroyed by an earthquake and an invasion of the sea. Callao was bombarded in 1880 during the war between Chile and Peru. By the completion of a direct cable between this port and Mollendo, telegraphic communication has been established with the United States. Pop. about 50.000.

Callender, John, an American historian; born in Boston, Mass., 1706; collected many papers relating to the Baptists in America; and published "A Centennial Discourse on the Civil and Religious Affairs of the Colony of Rhode Island," which was the only history of that State for more than a century. He died in Newport, R. I., Jan. 26, 1748.

Calliope, one of the Muses. She presided over eloquence and heroic poetry, and is said to have been the mother of Orpheus.

Calliope, an asteroid, the 22nd found. It was discovered by Hind, on Nov. 16, 1852. Also a series of steam whistles, pitched to produce musical notes; operated by a keyboard.

Callisthenes, a Greek philosopher, born in 365 B. C. He was a grandson of Aristotle, and accompanied Alexander the Great in his expedition to Asia. He was accused of conspiracy, and put to death B. C. 328.

Calmar, a fortified seaport town of Sweden, on the W. side of a narrow strait of the Baltic, separating the island of Œland from the continent, 90 miles N. E. by E. of Carlskrona. The town, built of wood, stands on the small island of Quarnholm. Here, in 1397, was concluded the famous treaty which united the kingdoms of Sweden, Denmark, and Norway. Here also, in 1520, Gustavus Vasa disembarked to deliver his country from the domination of foreigners and of a sanguinary tyrant. Pop. (1900) 12,715.

Calms, Regions of, tracts in the Atlantic and Pacific Oceans, on the confines of the trade-winds, where calms of long duration prevail.

Calomel, mercury sub-chloride. It is insoluble in water, and blacked by ammonia. It is used in liver complaints, and in any of the complaints for which mercury internally administered is indicated. Care should be exercised in its use, as it is likely to induce salivation.

Calorescence, the transmutation of heat rays into light rays.

Caloric, the name given to a supposed subtle imponderable fluid to which the sensation and phenomena of heat were formerly attributed.

Calorimeter, an instrument for measuring the quantity of heat which a body parts with or absorbs when its temperature sinks or rises.

Calotropis, a genus of asclepiads, consisting of three species, which form shrubs or small trees, and are natives of the tropics of Asia and Africa.

Calotype, a process by which paper saturated with iodide of silver is exposed to the action of light, the image being developed and fixed by hyposulphite of soda.

Calovius, Abraham, (originally KALAU), the chief representative of controversial Lutheran orthodoxy in the 17th century; born in Mohrungen in East Prussia, April 16, 1612. He waged war incessantly on Arminian, Socinian, Reformed and Catholic doctrines. He was six times married, the last time in his 72d year. He died Feb. 25, 1686.

Caloyers, Greek monks, belonging to the order of St. Basil, who lead a very austere life.

Caltrop, a four-pronged piece of iron, each prong about 4 inches in length, formerly thrown down in warfare to check the approach of the enemy.

Calumba, or **Colombo,** used in medicine, a menispermaceous climber of Eastern Africa, which has been introduced into India. Sliced and dried, it has a greenish-yellow tint, bitter taste, and a faint aromatic odor. It is a useful mild tonic and stomachic. AMERICAN CALUMBA ROOT is obtained from Frasera Walteri, a gentianaceous biennial, and has properties like those of gentian.

Calumet, a pipe used by the North American Indians. The bowl is of stone, and the stem is ornamented with feathers, etc. The calumet is the emblem of peace. To refuse it is to make a proclamation of enmity, and to accept is a sign of friendship.

Calvados, a French department, part of the old province of Normandy, bounded on the N. by the English Channel, and E., W. and S. by the departments Eure, La Manche, and Orne. Area, 2,132 square miles. Chief town, Caen. Pop. (1901) 407,-639.

Calvary, the English designation of the spot upon which the crucifixion of Jesus Christ is recorded as having taken place. It lay beyond the city, and by Captain Conder is identified with the old House of Stoning, or place of public execution, according to the law of Moses, on the top of the remarkable knoll outside the Damascus gate, on the N. side of Jerusalem. It is now generally believed to have been the knoll on the north-east of the city, formerly known as the Grotto of Jeremiah near the Damascus Gate.

Calve, Emma, a French opera singer; born in 1866. She made her début at Brussels in Gounod's "Faust." She has made successful tours of the United States in leading roles.

Calverley, Charles, an American sculptor; born in Albany, N. Y., Nov. 1, 1833. He has won note with groups and figures and portrait busts of Greeley, Cooper, Howe, etc. He was elected to the National Academy of Design in 1875.

Calvi, a seaport on the island of Corsica, on a peninsula in the Bay of Calvi. It was founded in the 13th century. It was so strongly fortified as to withstand several sieges, but in 1794, after a siege of 51 days, was taken by the English from the Corsicans. The following year it was retaken.

Calvin, John, (so called from Calvinus, the Latinized form of his family name, CAUVIN, or CHAUVIN), the second great reformer of the 16th century; born in Noyon, Picardy, July 10, 1509. Calvin died May 27, 1564, in the 55th year of his age. He was of a weak constitution, and suffered from frequent sickness. In Strasburg he had married a widow, Idelette de Burie, in 1539; a son, the fruit of their union, died early. In 1549 he lost his wife, after which he never married again. He was temperate and austere, gloomy and inflexible. His disinterestedness was rare. He had a yearly stipend of 150 francs, 15 measures of corn, and 2 casks of wine; and never received a larger one.

The chief doctrines of Calvin's system are: Predestination, particular redemption, total depravity, irresistible grace, and the certain perseverance of the saints, denominated the five points. The followers of Calvin in Germany are called the Reformed. In France most Protestants are Calvinists. Calvinism is the professed belief of the greatest part of the Presbyterians; the Particular Baptists in England and India, and the Associated Baptists in America; the Independents of every class in England and Scotland, and the Congregationalists of New England.

Calvin, Samuel, a Scotch-American scientist; born in Wigtonshire, Scotland, Feb. 2, 1840. He came to the United States when a youth and served in the Civil War. He studied geology as a life pursuit, and since 1874 has been Professor of Geology at the University of Iowa, and State Geologist of Iowa since 1892.

Calvinistic Methodists, a section of the Methodists, distinguished by their Calvinistic sentiments from the ordinary Wesleyans, who are Arminian. Wesley and Whitfield, the colleagues in the great evangelistic movement which did so much spiritually and morally to regenerate England in the 18th century, differed with regard to the doctrines of grace, Wesley being Arminian, and Whitfield Calvinistic; the latter revival preacher may be looked on as the father and founder of Calvinistic Methodism. In distinctive form it dates from 1725, but did not completely sever its connection with the English Church till 1810. In government it is now Presbyterian.

Calvo Doctrine. See DRAGO.

Calx, properly lime or chalk, but the term is more generally applied to the residuum of a metal or mineral which has been subjected to violent heat, and which is, or may be, reduced to a fine powder.

Calycanthus, a genus of hardy American shrubs, of which one species, Florida allspice, has yellow flowers, and is sweet-scented.

Calydonian Boar. According to a Greek myth, Œneus, King of Calydon, the ancient capital of Ætolia, omitted a sacrifice to Artemis, whereupon the goddess, when he was absent, sent a frightful boar to lay waste his fields. No one dared to face the monster, until Meleager, son of Œneus, with a band of heroes, pursued and slew him. The Curetes laid claim to the head and hide, but were driven off by Meleager. Later accounts make Meleager summon to the hunt heroes from all parts of Greece, among them the maiden Atalanta, who gave the monster the first wound.

Calyx, in botany, the name given to the exterior covering of a flower.

Cam, Diogo, a Portuguese explorer of the 15th century, who in 1484 discovered the mouth of the Kongo.

Camaguey, a province and its capital city in Cuba; both formerly known as PUERTO PRINCIPE. The province extends across the island between the provinces of Santa Clara and Oriente; has an area of 10,500 square miles; pop. (1907) 118,209; chief products, cattle, sugar cane, wax, honey, timber, and hemp. The city is in the heart of one of the wildest parts of the island, in the center of the province, and manufactures and exports cigars, sugar, tobacco, wax, and honey; pop. (1907) 66,460.

Camayeu, or **Camaieu,** a term used in painting where there is only one color, and where the lights and shadows are of gold, wrought on a golden or azure ground.

Cambaceres, Jean Jacques de, a French Senator; born in Montpellier, Oct. 18, 1753. During the reign of terror which followed the condemnation of Louis XVI. Cambaceres endeavored to check the arbitrary measures of the Assembly. He was a member of the Council of Five Hundred, and in 1796 drew up a "Plan of a Civil Code," which became the basis of the "Napoleonic Code." On the abdication of Napoleon, in 1814, Cambaceres withdrew into private life, but on the return of the emperor from Elba, he was promoted to the office of Minister of Justice. After the overthrow of Napoleon, he was banished from France on the ground of his having voted for the death of Louis XVI.; but in 1818 was reinstated in all his civil and political rights; he died, in Paris, March 8, 1824.

Cambert, Robert, a French musician; born in Paris about 1628. He founded the Royal Academy of Music, now the Paris Grand Opera. He died in London about 1677.

Cambodia, or **Camboja,** a State in Indo-China under a French protectorate, on the lower course of the Mekong, 220 miles from N. E. to S. W., and 150 miles broad, comprising an area of 37,400 square miles; population, 1,500,000. France, on Aug. 11, 1863, concluded a treaty with the King of Cambodia, Norodom, whom, from being a viceroy, the French had helped to elevate to the throne, placing Cambodia under a French protectorate. This treaty was superseded by that of June 17, 1884. Capital Pnom-Penh.

Cambon, Jules Martin, a French diplomatist; born in Paris, April 5, 1845. He studied for the law and fought in the Franco-Prussian War, reaching the grade of captain. He was Ambassador to the United States in 1897, retiring in 1903, and represented Spain in drawing up the Spanish-American protocol in 1898.

Cambria, the ancient name of Wales, the Britannia Secunda of the Romans.

Cambrian Rocks, in geology, an extensive series of gritstones, sandstones, conglomerates, slates, and shales, lying under the Lower Silurian beds, and above the Archæan, and divided into the Upper and Lower Cambrian.

Cambric, originally the name of a fine kind of linen which was manufactured principally at Cambrai in French Flanders, but is now applied to a cotton fabric, which is manufactured in imitation of the true cambric.

Cambridge, a city, and one of the county seats of Middlesex county, Mass., on the Charles river and the Fitchburg railroad; opposite to and connected with Boston by four bridges. It was founded in 1630–1631, under the name of "Newe-Towne," or Newtown." In 1636 the General Court appropriated $2,000 to locate a school in Old Cambridge, which later became Harvard College. The first printing office in the United States was located in Cambridge. Cambridge has now extensive printing establishments. For historical and literary associations, Cambridge is one of the most famous cities in the United States. The venerable Washington elm, under which Washington took command of the American Army, July 3, 1775, still stands. "Craigie House," built by Col. John Vassall in 1759, was Washington's headquarters in 1775–1776, and afterward became the home of the poet Henry W. Longfellow. On Elm avenue is "Elmwood," the birthplace and home of James R. Lowell. Pop. (1910) 104,839.

Cambridge, city and capital of Guernsey county, O.; on Wills creek and several railroads; 26 miles E. of Zanesville; is in a coal, natural gas, and petroleum region; is a trade center of parts of three counties; and manufactures iron, steel, glass, pottery, tin, plate, and iron roofing Pop. (1910) 17,327.

Cambridge University, a celebrated seat of learning and education, dating from English public schools established in Cambridge in the 7th century. The first college was founded under royal charter in 1237.

Cambyses, (1) a Persian of noble blood, to whom King Astyages gave his daughter Mandane in marriage. (2) The son of Cyrus the Great, became, after the death of his father, King of the Persians and Medes, B. C. 529. In the fifth year of his reign he invaded Egypt, conquering the whole kingdom within six months. He died in 521 B. C.

Camden, city, port of entry, and county seat of Camden county, N. J.; on the Delaware river, opposite Philadelphia, with which it is connected by several ferries. It is noted for its immense market gardens and manufactures. Pop. (1910) 94,538.

Camden, county-seat of Kershaw county, S. C.; 32 miles N. E. of Columbia. It has extensive cotton and grain interests and is a health resort for sufferers from throat and lung troubles. Camden was the site of three noted battles. On Aug. 16, 1780, the American forces under General Gates, 3,600 strong, were defeated by Lord Cornwallis. This ended Gates's military career. On April 25, 1781, Greene, who succeeded Gates, was attacked and worsted by

Lord Rawdon at Hobkirk's Hill, near Camden. On Feb. 24, 1865, Camden was taken by General Sherman after a lively skirmish. Two thousand bales of cotton and a quantity of tobacco were burned. Pop. (1900) 2,441.

Camden, Charles Pratt, Marquis, an English statesman; born in 1714. After having studied law, he was called to the bar in 1738. After nearly 20 years devoted to close study he was appointed attorney-general, and later lord chief justice. He distinguished himself by his exertions in behalf of the American colonies, and in 1766 rose to the highest legal dignity, that of lord high chancellor. He died in London, April 18, 1794.

Camel, a genus of ruminant quadrupeds, characterized by the absence of horns; a fissure in the upper lip; a long and arched neck; one or two humps or protuberances on the back; and a broad elastic foot ending in two small hoofs. The native country of the camel is said to extend from Morocco to China, within a zone of

CAMEL.

900 or 1,000 miles in breadth. The common camel, having two humps, is found in the N. part of this region, and exclusively from the ancient Bactria, now Turkestan, to China. The dromedary, or single-humped camel is found throughout the entire length of this zone. To people residing in the vicinity of the great deserts the camel is an invaluable mode of conveyance. It will travel three days under a load and five days under a rider without drinking. The camel's power of enduring thirst is partly due to the structure of its stomach, to which are attached pouches capable of straining off and storing water for future use. It can live on little food, and of the coarsest kind. In this it is helped by the fact that its humps are mere accumulations of fat and form a store upon which the system can draw when the outside supply is defective. Camels which carry heavy burdens will do about 25 miles a day; those which are used for speed alone, from 60 to 90 miles a day. The camel is rather passive than docile, but it is very vindictive when injured. It lives from 40 to 50 years. The South American members of the family Camelidæ contain the llama and alpaca; they have no humps.

Camelopard, a name given to the giraffe, originally from the notion that it was a hybrid between a camel and leopard.

Camelopardalis, one of the N. circumpolar constellations added by Hevelius in 1690. It is a large irregularly shaped constellation, something like the animal, with its head close to the Pole. It contains no stars brighter than the fourth magnitude.

Camelot, a name applied in the mediæval romances to the "City of Legions" which grew out of the permanent quarters of the Second Augusta Legion at Caerleon-upon-Usk, but was built earlier by the mythical Belinus.

Camel's Hump, one of the peaks of the Green Mountains, in Vermont, 17 miles W. of Montpelier.

Camel's Thorn, a name of several plants. They are half-shrubby plants growing in the deserts of the East, and derive their name from the fact that they afford a food relished by camels.

Cameo, a term applied to gems of different colors sculptured in relief. The art of engraving on gems boasts of high antiquity, having been practised and was revived in Italy in the 15th century. The cameos of the ancients were confined to the agate, onyx, and sard, but are occasionally found executed on opal, beryl, or emerald.

Camera Lucida, an instrument invented by Wollaston in 1804; designed to produce on a plane surface a representation of a landscape or other object, which will enable one to delineate it with accuracy.

Camera Obscura, an optical instrument used to view or sketch objects at a short distance. It consists of a box, formed of two parts sliding in each other, like a telescope, so as to adjust the focus to bodies more or less distant. A tube with a lens is fixed in one side of it, and is turned to the object to be represented. The rays entering fall on a mirror sloped at an angle of 45°, which reflect them upward. It is convenient that they may be made to pass through a horizontal plate of glass, on which tracing paper may be placed so as to enable one to draw the figure.

Camera, Photographic, a camera obscura so constructed that sensitized plates or films may be placed at the back and receive the image.

Camerarius, Rudolph Jakob, a German botanist, born in Wurtemburg, Feb. 12, 1665. To him is ascribed the discovery of the sexual relation in plants. He died in Tubingen, Sept. 11, 1721.

Camerlengo, ("a chamberlain"), one of the highest officers of the Vatican court, and who acts as Pope when there is a vacancy on the papal throne.

Cameron, Arnold Guyot, an American educator; born in Princeton, N. J., March 4, 1864; was graduated at Princeton College in 1847, and at department of Greek at Princeton professor of French and German in Miami University; in 1891–1897, assistant professor of French in the Sheffield Scientific School of Yale University; and in 1897 accepted the chair of French at the John C. Green School of Science, Princeton.

Cameron, James Donald, an American capitalist and politician; born in Middletown, Pa., May 14, 1833; oldest son of Simon Cameron; was graduated at Princeton College in 1852. In 1876 President Grant appointed him Secretary of War, and in 1877 he succeeded his father as United States Senator from Pennsylvania, retiring from the Senate in 1897.

Cameron, Simon, an American statesman; born in Maytown, Lancaster co., Pa., March 8, 1799; began, when 9 years of age, to learn the trade of a printer. In 1820 he was editor of a paper in Doylestown, Pa., and in 1822 he held a similar post in Harrisburg. He then interested himself in banking and the building of railroads. From 1845 to 1849 he was United States Senator from Pennsylvania. He became a member of the Republican party on its formation, and in 1856 he was again elected United States Senator. In 1861 he was appointed Secretary of War by President Lincoln. In January, 1862, he resigned from the Cabinet, and was appointed minister to Russia. In November of the same year he resigned, and lived in retirement till 1866, when he was again elected to the United States Senate. In 1877 he retired from the Senate in favor of his son, James Donald Cameron. He died in Maytown, Pa., June 26, 1889.

Camisards, the title given to the Protestant insurgents in the Cevennes, after the revocation of the Edict of Nantes, from having worn their shirts over their dress by way of disguise, on the occasion of some nocturnal attacks.

Camoens, Luis de, a Portuguese poet; born in Lisbon, probably in 1524 or 1525. Disappointed in love, he became a soldier, and served in the fleet which the Portuguese sent against Morocco, losing his right eye in a naval engagement before Ceuta. An affray into which he was drawn was the cause of his embarking in 1553 for India. He landed at Goa, but, being unfavorably impressed with the life led by the ruling Portuguese there, wrote a satire which caused his banishment to Macao (1556). Here he wrote the earlier cantos of his great poem, the "Lusiad." Returning to Goa in 1561, he was shipwrecked and lost all his property except his precious manuscript. After much misfortune Camoens in 1570 arrived once more in his native land, poor and without influence, as he had left it. The "Lusiad" was printed at Lisbon (1572), and celebrating the glories of the Portuguese conquests in India, acquired a wide popularity. The king

accepted the dedication of the poem, but the only reward Camoens obtained was a pittance insufficient to save him from poverty. His other works consist of sonnets, songs, etc. He died June 18, 1579.

Camomile, or **Chamomile.** The species are annual and perennial herbs, all palæarctic, long known for the medicinal virtues of an infusion of its flowers as a bitter stomachic and tonic.

Camorra, a well-organized secret society, once spread throughout all parts of the kingdom of Naples.

Camp, the space occupied by an army halted with tents pitched.

Campagna di Roma, the coast region of Middle Italy, in which Rome is situated, from 30 to 40 miles wide and 100 long, and forming the undulating mostly uncultivated plain which extends from near Civita Vecchia or Viterbo to Terracina, and includes the Pontine Marshes. The soil is very fertile in the lower parts, though its cultivation is much neglected, owing to the malaria which makes residence there during midsummer dangerous. In ancient times the Campagna was well cultivated and populated. Nothing of its former prosperity being visible but the ruins of great temples, circuses, and monuments, and long rows of crumbling aqueducts overgrown with ivy and other creeping plants.

Campania, anciently a province on the W. coast of Italy, having Capua as its capital, lying between Latium, Samnium, and Lucania. It was one of the most productive plains in the world, yielding in extraordinary abundance corn, wine, and oil; and by both Greek and Roman writers is celebrated for its soft and genial climate, its landscapes, and its harbors.

Campani-Alimenis, Matteo, an Italian mechanician. In optics, his greatest achievement was the manufacture of the object-glasses, through which Cassini discovered two satellites of Saturn. He invented the illuminated dial for clocks.

Campanile, a tower for the reception of bells, principally used for church purposes, but now sometimes for domestic edifices. The most remarkable of the campaniles is that at Pisa, commonly called the "Leaning Tower." It is cylindrical in form, and surrounded by eight stories of columns, placed over one another, each having its entablature. The height is about 150 feet to the platform, whence a plumb-line lowered falls on the leaning side nearly 13 feet outside the base of the building.

The campanile of St. Mark, dominating all the surrounding buildings of St. Mark's Square, Venice, was the most conspicuous landmark of the city for over 1,000 years. The tower was 325 feet high and 42 feet square at the base. On the morning of July 14, 1902, it fell with a great crash into the square. The church of St. Mark and the palace of the Doges were not hurt, but the campanile in falling carried away the Sansovino Loggetta and the library of the Royal Palace.

Campbell, Alexander, founder of the sect known as the "Disciples of Christ"; born near Ballymena, in County Antrim, Ireland, Sept. 12, 1788. He emigrated to the United States in 1807. Though at first a Presbyterian, in 1812 he formed a connection with the Baptists, and for some time he labored as an itinerant preacher. In 1826 he published a translation of the New Testament, in which the words "baptism" and "baptist" gave place to "immersion" and "immerser." By his discussions on public platforms, and his serial publications, as well as his assiduity in preaching tours and training young men for the ministry, Campbell gradually formed a large party of followers, who began about 1827 to form themselves into a sect under the designation of "The Disciples of Christ." In 1841 Campbell founded Bethany College in West Virginia, where he died March 4, 1866.

Campbell, Allan, an American civil engineer; born in Albany, N. Y., in 1815. He laid out the route of the New York and Harlem railroad; built a railroad from Callao to Lima, Peru; was appointed engineer of the harbor defenses of New York in the early part of the Civil War; was chief engineer in the construction of the Union Pacific railroad; and became

commissioner of public works in New York (1876). He died in New York city, March 18, 1894.

Campbell, Bartley, an American dramatist; born in Allegheny City, Pa., Aug. 12, 1843. He died in Middletown, N. Y., July 30, 1888.

Campbell, Charles, an American historian; born in Petersburg, Va., May 1, 1807. He died in Staunton, Va., July 11, 1876.

Campbell, Sir Colin, Lord Clyde, a British military officer; born in Glasgow, Oct. 20, 1792. He took part in the expedition to the United States (1814), and then passed nearly 30 years in garrison duty at various places. On the outbreak of the Crimean War, in 1854, he was appointed to the command of the Highland Brigade; the victory of the Alma was mainly his; and his, too, the splendid repulse of the Russians by the "thin red line" in the battle of Balaklava. When, on July 11, 1857, the news reached England of the sepoy mutiny, Lord Palmerston offered him the command of the forces in India. He effected the final relief of Lucknow, and on Dec. 20, 1858 announced to the Viceroy that the rebellion was ended. He died Aug. 14, 1863.

Campbell, Douglas Houghton, an American educator; born in Detroit, Mich., Dec. 16, 1859; was graduated at the University of Michigan in 1882; then studied in Europe. Returning he was Professor of Botany in the University of Indiana till 1891, when he was called to the similar chair in Stanford University in Palo Alto, Cal.

Campbell, Helen Stuart, an American sociological writer; born in Lockport, N. Y., July 4, 1839. She has given close attention to the study of social problems. From 1881 till 1884 she was literary editor of "Our Continent," Philadelphia.

Campbell, Henry Donald, an American scientist; born in Lexingtroit, Mich., Dec. 16, 1859; was graduated at Washington and Lee University in 1882; later studied at Berlin and Heidelberg, and in 1887 became Professor of Geology and Biology at Washington and Lee University.

Campbell, John, a British historian; born in Edinburgh, March 8, 1708. From 1755 to the close of his life, he was agent of the British government for the province of Georgia. He died Dec. 28, 1775.

Campbell, John Pendleton, an American scientist; born in Cumberland, Md., Nov. 20, 1863. He became Professor of Biology at the University of Georgia in 1888.

Campbell, Reginald John, an English clergyman; born in London, Eng., in 1867; entered the Congregational ministry in 1895; became pastor of the City Temple, London, in 1903; published "The New Theology" (1907), which attracted much attention on both continents.

Campbell, Thomas, a Scotch poet; born in Glasgow, July 27, 1777. He died in Boulogne, June 15, 1844, and was interred at Poets' Corner, in Westminster Abbey.

Campbell, William W., an American lawyer and historian; born in Cherry Valley, N. Y., in 1806. Settled in New York city, he was a judge of the State Supreme Court. He died in Cherry Valley, Sept. 7, 1881.

Campbell, William Wilfred, a Canadian poet; born in Western Ontario, Canada, in 1861.

Campbellites, the followers of Rev. John McLeod Campbell, of Dumbartonshire, who was deposed from the Church of Scotland, May 24, 1831, for teaching the universality of the Atonement.

Campbell's Station, a town in Knox county, Tenn., noted for the battle fought (Nov. 16, 1863) between a Federal army under Burnside and a Confederate one under Longstreet, in which the Confederates were repulsed at nightfall, after sharp fighting.

Campeachy, or SAN FRANCISCO DE CAMPECHE, a seaport on the W. side of the peninsula of Yucatan, on a bay of the same name.

Campero, Narciso, a Bolivian statesman and soldier; born in Tojo (now in Argentina), in 1815. He studied and traveled in Europe, and on his return entered the Bolivian army, and rose to the rank of Brigadier-General. After the overthrow of Diaz (1880), he was chosen President

of Bolivia. Internally, his administration was quiet.

Camphausen, Wilhelm, a German painter; born in Dusseldorf, Feb. 8, 1818. He was specially famous for battle-pieces. He died in Dusseldorf, June 16, 1885.

Camphene, the commercial term for purified oil of turpentine, obtained by distilling the oil over quicklime to free it from resin.

Camphor, a powerful diffusible stimulant and antispasmodic. It enters into union with opium, as a sedaditive, under the name of paregoric.

Campi, a family of Italian artists who founded what is known in painting as the school of Cremona.

Campion, Edmund, an English Jesuit; born in London, Jan. 25, 1540. He was educated at Oxford, and distinguished himself greatly. Though at first a Roman Catholic, he adopted the Reformed faith, and took deacon's orders in the Church of England; but he afterward recanted, became a Jesuit, and attacked Protestantism. He was found guilty of conspiring to raise sedition, and was executed at Tyburn, Dec. 1, 1581.

Camp Meetings, gatherings of devout persons, held usually in thinly-populated districts, and continued for several days at a time, with the view of securing prolonged and uninterrupted religious exercises.

Campo-Formio, a town in Italy, 66 miles N. E. of Venice, famous for the treaty of peace between Austria and France, which was signed in its neighborhood on Oct. 17, 1797.

Campos, Arsenio Martinez, a Spanish military officer; born in Cuba in 1834. Appointed a lieutenant in the army in 1858; became chief of the battalion in the Morocco campaign of 1859; was on duty in Cuba with the rank of colonel in 1864–1870; took part in suppressing the Carlist insurrection and was promoted brigadier-general in 1870; opposed the republic after the abdication of King Amadeus, and was imprisoned as a conspirator. Under a plea for permission to be allowed to serve as a private, he was released and given command of a division. With General Jovellar, he called Alphonso XII. to the throne; was made commander-in-chief of the Catalonia district, and crushed Don Carlos at Pena de la Plata in 1876. In 1877 he was appointed commander-in-chief in Cuba, and brought the revolution there to a close. In April, 1895, he was appointed governor-general and commander-in-chief in Cuba, and in January, 1896, he was recalled to Spain. On his arrival in Madrid he repeated his belief that the trouble in Cuba could only be ended by granting reforms. He died Sept. 23, 1900.

Campo Santo (lit. "Holy Field"), the name given to a burying-ground in Italy.

Campus Martius (the "Field of Mars"), an extensive plain or meadow without the walls of Rome, where the levies of troops were made by the tribunes, where the ballot for the conscription was drawn, and where all military exercises were performed. It was also a gymnasium for youths. It was here that the great assemblies of the people took place to elect their public officers.

Campus Sceleratus, a name given to a spot within the walls of Rome, and close by the Porta Collina, where those of the vestal virgins who had transgressed their vows were entombed alive.

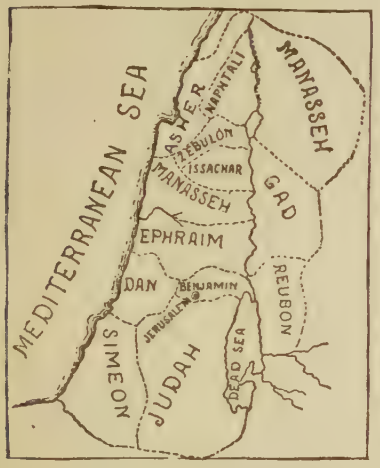
Cam Wood, a wood used for making knife-handles and ornamental knobs to furniture. It is called also Barwood and Ringwood.

Cana, a town of Palestine celebrated in Scripture as the scene of our Lord's first miracle, when he turned water into wine.

Canaan, the country W. of the Jordan, called also Chanaan, and the Land of Canaan, after one of the sons of Ham. The Greeks applied the term Cana to the entire region between the Jordan and the Mediterranean up to Sidon, afterward termed by them Phenicia, a name which by degrees came to be confined to Phenicia proper.

Canaanites, The, a word used in two senses: (1) For the tribe of the "Canaanites" only. (2) Applied as a general name to the non-Israelite inhabitants of the land. Instances of this are: Genesis xii: 6; Numbers xxi: 3. Judges i: 10; and Gene-

sis xiii: 12. See also Genesis xxiv: 3, 37; comp. xxviii: 2, 6; Exodus, xiii: 11; comp. 5. Like the Phœnicians, the Canaanites were probably given to commerce.



MAP SHOWING TRIBAL POSSESSIONS.

Canada, Dominion of, a Federal Union of Provinces and Territories, comprising all the British possessions in North America, excepting Newfoundland; bounded by the Arctic, Pacific, and Atlantic oceans, and the United States; land area, 3,745,574 square miles; number of Provinces, Territories, and Districts, 14; population (1901) 5,371,315; (1910) 7,489,781; capital, Ottawa.

Extending over so large a territory, Canada presents a great variety of surface. Along the Atlantic coast is a range of hills extending inland from 15 to 20 miles. About 60 miles inland, the Cobequid mountains, some reaching an altitude of 1,100 feet, extend in a line parallel to the coast from the Bay of Fundy, through Nova Scotia to the Strait of Canso. Nova Scotia is a long fertile plain. A third mountain range crosses New Brunswick from the Gulf of St. Lawrence to the State of Maine. An extensive plateau intervenes between these mountains and the Cobequids. The central part of the Dominion consists of a vast undulating plain, extending W. to the foothills of the Rocky Mountains. This section consists of three prairie plateaus. The E., 800 feet high, known as the Red River Valley and Lake Winnipeg region, contains about 7,000 square miles of valuable wheat land. The middle plateau has an area of 105,000 square miles, altitude, 1,600 feet, and includes the Qu'Appelle and Assiniboia River valleys. The third plateau extends 450 miles E. from the Rocky Mountains, and has an average altitude of 3,000 feet. The Rocky Mountains are the most prominent physical features of the Dominion, and stretch from Alaska to California, some of the peaks attaining a height of 16,000 feet. Among the highest are Mt. Hooker, 16,760 feet; Mt. Brown, 16,000 feet, and Mt. Murchison, 15,700 feet. The Canadian Pacific railroad crosses the Rockies through the Kicking Horse Pass, just S. of Mt. Murchison, at an altitude of 5,300 feet. Between these mountains and the Pacific coast are the Selkirk Mountains, the Gold Range, a central plateau, and the Cascade or Coast Range. The Cascade or Coast Range is a continuation of the Sierra Nevada of California, reaches an altitude of 7,000 feet, and contains many extinct volcanoes. The Selkirk range has a glacier region of greater extent than that of Switzerland. The coasts of the Dominion have numerous indentations, the largest of which are the Gulf of St. Lawrence, the Gulf of Georgia, the Bay of Fundy, and the Bay of Chaleurs. In the N. are many large bays or inland seas, of which Baffin Bay, on the N. E., and Hudson Bay, near the center of the Dominion, are the largest. The lakes of Canada are the most extensive in the world; besides the Great Lakes, there are many large lakes in the Northwest Territories and Manitoba.

Canada is very rich in its mineral deposits. The most important minerals found are gold, silver, iron, copper, nickel, lead, and coal; besides manganese, cobalt, asbestos, pyrites, phosphates, building stones, marbles, petroleum, and salt. Gold is principally mined in British Columbia, the

newly organized Yukon Territory, and Nova Scotia. The Nova Scotia gold district extends over an area of 6,000 square miles, and the metal is extracted from the quartz in a very fine and pure state. Gold is also found in rich deposits in the Northwest Territories. Extraordinary silver deposits are found in several islands on the N. shore of Lake Superior and in argentiferous galena in Quebec, Nova Scotia, and British Columbia. Copper abounds in British Columbia, Nova Scotia, Ontario, Quebec, New Brunswick, and the Northwest Territories. The copper found on the N. shore of Lake Superior, and in Ontario, is of excellent quality. Iron is found in great quantities at Hull, Ontario, in a bed 90 feet thick. This ore is magnetic, yielding 70 per cent pure iron. Magnetite is also found in Nova Scotia and New Brunswick. Silver-bearing lead, tin, zinc, and bismuth are found in many places. Coal exists in Nova Scotia, New Brunswick, British Columbia, and the Northwest Territories. The Nova Scotia and New Brunswick fields are of great extent, and the value of this output in British Columbia alone is second only to that of its gold. Anthracite is found in Queen Charlotte and Vancouver Islands.

The soil is generally clay, beneath a rich vegetable loam, and is covered in its natural state with oak, elm, walnut, white wood, pine, fir, and maple trees. It is well adapted to general agriculture, and is capable of the highest cultivation. The climate varies greatly. In the S. provinces the summers are warm, and, although the winters are cold, they are pleasant and bracing. In the W. the climate is milder than in the rest of the Dominion. In the extreme N. the ground is covered with snow nearly the entire year and the winters are very severe. The greater part of the Dominion is covered with forests.

The greater part of Nova Scotia, Quebec, New Brunswick, Ontario, and Vancouver Island, beside the country lying between Lake Superior and the Rocky Mountains, is admirably adapted to agriculture. And this industry is rapidly developing. The fisheries are also extensive and profitable.

Canada has no National system of education, but under the British North America Act, 1867, the right to legislate on matters respecting education was placed in the hands of the government of the separate provinces. In Nova Scotia, New Brunswick, British Columbia, and Prince Edward Island, the schools are strictly undenominational. In Manitoba all public schools are non-sectarian. In Quebec and Ontario the schools are non-sectarian, but the Protestants and Roman Catholics are allowed separate schools within certain limits.

According to the Dominion census of 1901 the Roman Catholic was the strongest denomination, numerically, followed by the Methodist, Presbyterian, Church of England, Baptist, Lutheran, Congregational, Disciples of Christ, Protestant Brethren, Jew, Adventist, Quaker, Universalist, and Unitarian.

Canada has 95 main steam railway lines, with 24,104 miles of track completed, and 48 electric lines, with 989 miles of track. The capital of the steam lines exceeds $647,000,000; of the electric, $51,950,000. The construction of the government railways has cost upward of $215,000,000. There are more than 20 canal systems, which have cost for construction and enlargement over $95,300,000, and of these the St. Lawrence system is the most important, although the Welland was the costliest. The banks have a paid-up capital of $100,000,000 and assets exceeding $1,000,000,000. The net debt of the Dominion is about $324,000,000. The foreign trade has reached $288,685,000 in exports and $361,607,000 in imports, and the mineral production over $90,000,000.

The Constitution of Canada is after the model of the mother-country. The Parliament consists of the King, an upper house styled the Senate, and a House of Commons. The King is represented by a governor-general, who exercises his authority with the aid and advice of a council of ministers, styled the King's Privy Council for Canada. The authority of the governor-general is largely nominal, the government really being carried on by the Prime Minister and Council, who

are directly responsible to Parliament. The cabinet must be supported by a majority of the House of Commons, or go out of office. The Senate consists of not more than 78 members. The senators are chosen by the governor-general-in-Council, and hold the appointment for life. Among other qualifications, a senator must have real property to the value of $4,000, and must be a resident in the province for which he is appointed. The Speaker of the Senate is nominated by the governor-general. The House of Commons consists of 215 members. The duration of a House of Commons is not to exceed five years. In July, 1885, an Electoral Franchise Act was passed, providing for a uniform franchise for the whole Dominion in elections for the House of Commons. The House of Commons elects its own Speaker. Any bill passed by the Houses of Parliament, even though assented to by the governor-general in the King's name, may afterward be disallowed by the Imperial Privy Council.

Each one of the different provinces also has an executive and a legislature of its own, presided over by a lieutenant-governor, and constituted much as before the Union. The lieutenant-governor are appointed by the governor-general. In this distribution of legislative power between the general and the provincial parliaments, certain classes of subjects of a local nature are assigned exclusively to the legislatures of the provinces, while subjects of more general concern are assumed by the Parliament. The debts of the several provinces, at the Union, were assumed (with certain limitations) by the Federal Government; and, on the other hand, certain duties and revenues, and certain public works and properties belonging to the several provinces before the Union, were taken possession of to form a consolidated revenue-fund for defraying the interest of these debts, and for other expenditures of the Federal Government.

On Sept. 1, 1905, Alberta and Saskatchewan, formed from the provisional districts of Alberta, Athabaska, Assiniboia and Saskatchewan, were made provinces. The Yukon Territory, of which the Klondike is a small section, was constituted in 1898.

The population, March 31, 1910, by provinces was: Ontario, 2,687,861; Quebec, 2,124,834; Maritime Provinces, 1,060,678; Manitoba, 496,111; Saskatchewan, 377,590; Alberta, 321,-862; British Columbia, 321,733; unorganized territory, 59,050. The largest cities were: Montreal, with suburbs, 500,000; Toronto, 355,000; Winnipeg, 130,000; Vancouver, 110,-068; Ottawa, 86,130; Quebec, 70,000; Hamilton, 55,000; Halifax, 45,000; St. John, N. B., 43,000; Kingston, 20,000; and Hull, 16,735.

In 1534 Jacques Cartier, a French navigator, entering the St. Lawrence on the festival of the saint of that title, took nominal possession of North America in the name of his king, Francis I. In 1608 Quebec was founded by De Champlain; in 1623 he built Fort St. Louis, from which stronghold France ruled for 150 years a vast region extending E. to Acadia (now Nova Scotia), W. to Lake Superior, and ultimately down the Mississippi as far as Florida and Louisiana. The Recollet and Jesuit missionaries traversed the country, and underwent incredible hardships in their zeal for the conversion of the Indians. These fearless priests were the pioneers of civilization in the far West, and to La Salle is due the discovery of the Mississippi valley. In 1670 Charles II. granted the Hudson Bay Company the perpetual exclusive right of trading in the territory watered by all the streams flowing into Hudson Bay. Garrisoned forts were raised at suitable points, and bitter enmity between the French and English traders led to bloody struggles. The wars on the American continent followed the course of the wars in Europe, until the long struggle between France and England for the supremacy in America came to a close on the "Plains of Abraham" in 1759, when General Wolfe defeated Montcalm. Peace was concluded between Great Britain and France, 1763, when Canada was formally ceded to England, and Louisiana to Spain. In the same year a small portion of the recently acquired territory was by royal proclamation organized under English laws. In 1774 the new province was extended by parliamentary enactment, and that under French laws, down the

Ohio to its confluence with the Mississippi, and up the latter stream to its source. Finally, Canada receded to its present limits in 1783. In 1791 Canada was divided under separate legislatures into two sections, the E. retaining French institutions, and the W. receiving those of England; and these sections were reunited for legislative purposes in 1841. In 1867 Upper and Lower Canada, Nova Scotia, and New Brunswick were united as the Dominion of Canada, and in 1870 the Hudson Bay Company's territory was divided into Manitoba and the Northwest Territories and united to the Dominion. British Columbia entered the Union in 1871, and Prince Edward Island in 1873. The division of the Northwest was attended by the rebellions of half-breeds under Louis Riel in 1870 and 1885. Fenian raids in 1866 and 1870-71 also disturbed the peace of the Dominion. In 1893 a court of arbitration on the Bering Sea Seal Fisheries met in Ottawa. In 1896 Quebec's boundaries were extended to Hudson Bay. In 1897 preference was given British goods. In 1903 the Alaskan Boundary dispute was decided in favor of the United States.

Canada, a Spanish term used to indicate a small canon, or valley with steep rocky walls.

Canada Balsam, a pale balsam, obtained by incision from a Canadian tree, the American silver-fir, sometimes called the Balm of Gilead fir.

CANADA GOOSE.

Canada Goose, an American wild goose 30 to 35 inches long, brownish above, lighter below, head, neck, bill, and feet black, a white patch on the cheek; breeds in the N. of the continent and migrates S. when the frost becomes severe.

Canada Hemp, a perennial herb, of the dogbane family native of North America. It has a strong fiber, used by the Indians for twine, nets, woven fabrics, etc.

Canada Rice, a floating grass growing in lakes and sluggish streams in Canada and the Northern United States, yielding a grain that forms part of the food of the Indians, and is eaten by the whites also.

Canadian Pacific Railway, a line of railway which traverses British North America from the St. Lawrence to the Pacific, and opened for general traffic in June, 1886. Commencing at Montreal, the line goes to Ottawa, thence round the N. of the Great Lakes to Port Arthur at the head of Lake Superior, and thence to Winnipeg, Manitoba, thence to Stephen in the Rocky mountains, then across British Columbia to Vancouver on the Pacific. The length of the line from Montreal to Vancouver is 2,909 miles.

Canadian River, a river that rises in the N. E. part of New Mexico, and runs generally E. through Texas and Indian Territory to the Arkansas. Its length is about 900 miles.

Canaigre, a species of dock, growing abundantly in New Mexico and Texas. The rootstock furnishes a material used in tanning.

Canaille, a French word, denoting the most degraded element of the populace, and applied to an individual as a term of contempt.

Canal, an artificial water-course or channel, especially used for the passage of boats. The Egyptians very early made a canal connecting the Nile and the Red Sea. Most of the ancient nations had canals. The great canal of China was constructed partly in the 7th and partly in the 9th century A. D.; it is 825 miles long. The first known English canal was cut by the Romans at Caerdike. The Caledonian canal projected in 1803 was opened in 1822. The Erie canal, so important to New York city, was begun in 1817, and completed in 1825. The Welland canal parallel to Niagara river and cataract, and the United States and Canadian Sault Ste. Marie canals

overcoming St. Mary's Falls, were opened in 1833, and 1876, and connect for navigation the Great Lakes and the St. Lawrence River basins. The Languedoc, or Canal du Midi, connecting the Atlantic with the Mediterranean, was completed in 1861. The Suez canal, connecting the Mediterranean and the Red Sea, was opened in 1869. It is 99 miles long; 26 feet deep; 327 feet wide for 77 miles; and 196 feet for the remainder. Its success suggested the cutting of the Panama Canal (see article), across the isthmus, to join the Pacific and Atlantic Oceans. This great undertaking, begun by the renowned engineer of the Suez canal, M. de Lesseps, was, after a prosecution to a stage near completion, abandoned in 1892, as a result of a terrific scandal. The great Manchester ship canal, extending from Eastham to Manchester, England, was opened Jan. 1, 1894. The Corinth ship canal, across the Isthmus of Corinth, was opened by King George of Greece, Aug. 6, 1893. On June 20, 1895, the great Baltic and North Sea canal was opened by the German Emperor in the presence of a navy representing all nations. Work began on the great Chicago drainage canal Sept. 3, 1892, and by Jan. 1, 1900, it was completed. The main channel is 29 miles long, of which about nine miles was cut through solid rock. In rock the minimum depth is 22 feet. See PANAMA CANAL.

Canalejas y Mendez, José, a Spanish statesman; became a leader of the Liberal party; editor of "El Heraldo" of Madrid; president of the Academy of Jurisprudence; chief of the Departments of Justice, Finance, Public Instruction, and Public Works; and Feb. 9, 1910, Prime Minister; and, in the latter capacity, was widely conspicuous because of the controversy between Spain and the Vatican on church affairs.

Canard, a false report; a silly rumor.

Canary Bird, a singing bird, a kind of finch from the Canary Islands. They were introduced into Europe 300 or 400 years ago.

Canary Flower, an annual climbing plant of the Indian cress family, a native of New Granada, cultivated in Europe for its showy yellow flowers.

Canary Islands, a group of islands belonging to Spain in the Atlantic Ocean, off the N. W. coast of Africa, forming a Spanish province. The group consists of seven large and several small islets, with a joint area of about 2,800 square miles, and a pop. (1900) of 358,564. The principal islands are Lanzarote, Fuerteventura, Gran Canaria, Teneriffe, Gomera, Palma, and Hierro or Ferro. The distance from Fuerteventura to the African coast is about 62½ geographical miles. The coasts are steep and rocky, and the surface is diversified with high mountains, narrow gorges, and deep valleys. All the islands are volcanic, and everywhere show plain marks of their origin. There are no rivers, and on several of the islands water is very scarce.

TENERIFFE, the largest island of the group, has an area of 877 miles, with a population of 112,000. The chief town and port is Santa Cruz de Santiago, on the S. E. coast.

Canby, Edward Richard Sprigg, an American army officer; born in Kentucky, in 1817. He graduated at West Point in 1839; served in the Mexican War, commanded the United States troops in New York city during the draft riots of 1863; succeeded General Banks in the command of the army in Louisiana, 1864; became Brigadier-General, 1866. He was treacherously shot by an Indian while negotiating for the removal of the Modocs from Northern California, April 11, 1873.

Cancan, a dance, something of the nature of a quadrille, but accompanied by violent leaps and indecorous contortions of the body.

Cancer, in astronomy, the fourth sign in the zodiac. The sun enters this sign about June 21. He is at his greatest N. declination on entering, and the point which he reaches is called the summer solstice, because he appears for the moment to stop in his progress N., and turn S. again.

Cancer, (derived from the Latin cancer, a crab), or **Carcinoma,** in medicine and surgery a name which is given to a group of malignant diseases,

in consequence of their supposed resemblance to a crab. In the treatment of cancer it is necessary to get the disease at an early stage of its growth, so that it may be thoroughly removed. If it is detected and removed at this period of its existence it is curable, but if the neighboring glands have become involved in the disease the relief is only temporary.

Cancer Root, or **Beech Drops,** a parasitic herb of the order Orobancheæ, a native of North America, growing on the exposed roots of beech-trees. The whole plant is powerfully astringent, and the root is especially bitter and nauseous.

Cancrum Oris, (literally "sore in the mouth"), known also as Noma, Water-cancer, and Water-canker, a peculiar form of mortification, arising apparently from defective nutrition. The disease seldom occurs except between the 2d and 11th years, and is usually preceded by measles, remittent or intermittent fever, or some other serious disease.

Candace, a name apparently common to the warrior queens of Ethiopia in the later period of the kingdom of Meroe. The most distinguished of them invaded Egypt 22 B. C., was defeated by the Romans and obliged to sue for peace, which she obtained, with a remission of the tribute imposed on her by Petronius. One of her successors is mentioned in Acts vii: 27; her high treasurer was baptized by Philip the Deacon on the road to Gaza.

Candelabrum, a lamp-stand. Its tripedal form among the ancients is believed to have been derived from the shape of its predecessors — braziers or basins for holding fuel, mounted on tripods.

Candia, or **Crete,** (called in the most ancient times Idæa, from Mount Ida, afterward Creta, whence the Turkish name Kirid), one of the most important islands of the Turkish empire; situated in the Mediterranean, 81 miles from the S. extremity of the Morea, and 230 from the African coast. Length 160 miles; breadth 7 to 35; area 3,330 sq. m.; pop. 310,400. In 1868 a formidable insurrection, fomented by Greece, was with difficulty suppressed by the Turks. In consequence of this revolt the Turks granted to the Cretans a degree of autonomy, but Turkish bad faith produced another revolt nine years later. At that time a new constitution of a parliamentary character was inaugurated, but many of its provisions were annulled in 1889. In 1896 there was again a rising against the Turks, in which the Greeks took part. The Greek troops landed on the island were withdrawn at the instance of the Great Powers, who undertook to secure an autonomous government under Turkish suzerainty and to cause the Turkish troops to be withdrawn. On Sept. 6, 1898, the Mohammedans of Candia rose against the Christians, and the fighting resulted in the death of many of the latter, including some British sailors. The leading powers at once demanded the complete withdrawal of the Turkish troops who had abetted the rebels, and ultimately on Oct. 11, the Sultan complied with their demand, the troops being soon after withdrawn. Prince George of Greece was high commissioner of the Powers in 1898–1906.

Candidate, a term taken from the Latin candidatus, a candidate, literally a person dressed in white, because, among the Romans, a man who solicited an office, such as the prætorship or consulship, appeared in a bright white garment.

Candleberry, a shrub, natural order Myricaceæ, growing from 4 to 18 feet high, and common in North-America, where candles are made from its drupes or berries which are about the size of peppercorns, and covered with a greenish-white wax.

Candle Fish, a small fish peculiar to the Pacific coast of the United States. It is so oily that when dried and a wick is drawn through it, it will burn like a candle.

Candlemas, the feast of the purification of the Virgin, Feb. 2d; so-called from being formerly celebrated with processions and shows of candles. It was instituted in the 6th century.

Candler, Warren A., an American clergyman; born in Carroll county, Ga., Aug. 23, 1857. He was graduated at Emory College in 1875, was ordained to the Methodist ministry,

and in 1888 was elected a bishop. He has been President of Emory College since 1888.

Candlish, Robert Smith, a Scotch clergyman, born in Edinburgh, March 23, 1806; was educated at Glasgow University. After the death of Chalmers, Candlish was the ruling spirit in the Free Church. He died Oct. 19, 1873.

Candy, or **Kandy,** a city of Ceylon, near the center of the island, 72 miles N. E. of Colombo. Pop. (1901) 26,622.

Canea, the capital and chief commercial town of Crete, situated on the N. W. coast. It occupies the site of the ancient Cydonia. Pop. 22,000.

Canebrake, a colossal reed, which reaches a height of 30 or 40 feet, and forms dense swamp-jungles in marshy places along the banks of the Red river, the Arkansas, the Mississippi, and their tributaries.

Canes Venatici, (Latin "the Hunting-dogs," Asterion and Chara), one of the northern constellations added by Hevelius in 1690, between Bootes and Ursa Major.

Canfield, James Hulme, an American educator; born in Delaware, O., March 18, 1847; in 1877–1891 he was Professor of History in the University of Kansas, and in 1891–1895 was Chancellor. He then became President of the Ohio State University and in 1899 librarian of Columbia University. Died in 1909.

Cang, Cangue, or **Kea,** the wooden collar, weighing from 50 to 60 pounds, and fitting closely round the neck, imposed upon criminals in China.

Canicula, the dog-star or Sirius; hence Canincular days, the dog-days.

Canidæ, a family of mammals, containing the dogs, wolves, foxes, and jackals.

Canis Major, a constellation of the Southern hemisphere, remarkable as containing Sirius, the brightest star.— CANIS MINOR is a constellation in the Northern hemisphere, immediately above Canis Major, the chief star in which is Procyon.

Canker, (1) in medicine, a collection of small sloughing ulcers in the mouth. (2) In horticulture, a disease to which fruit-trees are liable. (3) In farriery, a disease in horses' feet causing a discharge of fetid matter from the cleft in the middle of the frog.

Cankerworm, a worm or larva destructive to trees or plants.

Cannel Coal, a variety of bituminous coal, containing earthy matters, which render it specifically heavier than water. It varies much in appearance. It is very dense and compact, and not easily frangible, breaking with an uneven fracture, and does not soil the fingers. When burning, it splits and crackles, without melting, and leaves 3 or 4 per cent. of ash.

Cannes, a seaport of France, on the shore of the Mediterranean, in the Department of Alpes-Maritimes; famous as the place where Napoleon landed when he returned from Elba, March 1, 1815. Pop. 19,500.

Cannibalism, the act or practice of eating human flesh by mankind. When America was discovered, cannibalism was found to prevail to a very great extent. It is stated, on excellent authority, to exist in Hayti, and undoubtedly prevails among certain South American tribes. In many parts of Africa, cannibalism is systematically practised.

Canning, George, an English orator and statesman; born in London, April 11, 1770; educated at Eton and at Oxford. He was first brought into Parliament by Pitt in 1793, and in 1796 became Under-Secretary of State. In 1797 he projected, with some friends, the "Anti-Jacobin," of which Gifford was appointed editor, and to which Canning contributed the "Knife-grinder" and other poems and articles. In 1798 he supported Wilberforce's motion for the abolition of the slave-trade. In 1807 he was appointed Secretary of State for Foreign Affairs. As British Minister of Foreign Affairs he earnestly advocated the principles embodied in the Monroe Doctrine. April 12, 1827, his appointment to be Prime-Minister was announced. He died in Chiswick, Aug. 8, 1827.

Cannon, George Q., born in Liverpool, England, Jan. 11, 1827; removed to the Salt Lake, where he be-

came a Mormon leader. He was a member of the Legislative Council of Utah in 1865–1866 and 1869–1872, and was a delegate to Congress from 1865 to 1881. At a Constitutional Convention at Salt Lake City in 1872 he was chosen to present the constitution and memorial to Congress for the admission of the Territory into the Union as a State. He died in Monterey, Cal., April 12, 1901. His son, Frank J. Cannon, was elected one of the first two United States Senators from Utah.

Cannon, Joseph G., an American lawyer; born in Guilford, N. C., May 7, 1836. He removed to Illinois, and was admitted to the bar there. He was State Attorney in 1861–1868; was elected to the 43rd Congress, and with the exception of the session of 1891–1893 has since held the seat. He was elected Speaker of the House, in Dec. 1903.

Cano, Juan Sebastian del, a Spanish navigator, born in Guetaria, Guipuzcoa, about 1460. He was one of the first to circumnavigate the globe (1522). He died on the Pacific, Aug. 4, 1526.

Canoe, a boat made of a hollow trunk of a tree, or of the bark shaped and strengthened. They were originally used by the North American Indians.

Canon, in its original sense, a cane or reed used as a measure or rule. Specifically, a law or rule in general. In ecclesiastical history a canon is a book containing the rules of a religious order used in monastic institutions. A list or catalogue of the canonized saints of the Roman Catholic Church. A dignitary of the Church; one who possesses a prebend, or revenue allotted for the performances of divine services in a cathedral or collegiate church.

Canon, the Spanish word for tube, funnel, cannon; applied by the Spanish Americans, and hence in North America generally, to long and narrow river gorges or deep ravines with precipitous and perpendicular sides.

Canonical Hours, certain stated times of the day appropriated by ecclesiastical law to the offices of prayer and devotion in the Roman Catholic Church.

Canonization, a ceremony in the Roman Church, by which deceased persons are declared saints.

Canon-law, the body of ecclesiastical law as laid down by the canons. The oldest canons are called Apostolic canons. The canons of the Councils of Nice (A. D. 325), Constantinople (A. D. 381), Ephesus (A. D. 431), and Chalcedon (A. D. 451), obtained civil sanction by decree of Justinian. Afterward papal decrees of various dates were added to the Roman Catholic canon law.

Canon of Scripture, the term canon, as applied to the Scriptural writings, has been narrowed in its application to those inspired writings recognized by Christian believers.

Canossa, a ruined castle near Reggio, Italy, interesting for its historical associations. The Emperor Henry IV., excommunicated by Gregory VII., humbly waited for three days in its courtyard bareheaded, barefooted and fasting, until the Pope reversed his decision. Hence the term "going to Canossa," meaning to yield to papal wishes or demands.

Canova, Antonio, an Italian sculptor, born in 1757; died 1822. He was largely self-taught, and at 15 years of age produced two statues. He excelled in whatever style he chose, and his versatility is shown in the delicate beauty of his famous "Cupid and Psyche" and the rugged strength of his colossal "Hercules throwing Lichas into the Sea."

Canso, Cape, the E. extremity of Nova Scotia, at the entrance of Chedabucto Bay. Canso Strait or Gut, 17½ miles long and 2½ in average breadth, separates Nova Scotia from the island of Cape Breton.

Cantacuzenus, a Greek princely family, which gave two emperors to Constantinople, and a branch of which has been distinguished in the service of Russia. In 1903, a scion married a granddaughter of General Ulysses S. Grant.

Canteen, in military language, a regimental establishment managed by a committee of officers, in barracks or forts, for the sale of liquors, tobacco, groceries, etc. The word is also applied to a flat can or metallic bottle used by soldiers for carrying drinking

water. The sale of liquors in the United States army establishments known as canteens was recently prohibited by law.

Canterbury, a city and parliamentary and municipal borough of England in Kent, 55 miles S. E. of London. In the 8th, 9th, 10th, and 11th centuries the city was dreadfully ravaged by the Danes, but at the Conquest its buildings exceeded in extent those of London. The ecclesiastical importance of the place was consummated by the murder of Thomas a Becket in the cathedral. Henry VIII. dissolved the priory in 1539, and ordered the bones of Becket to be burned; and the troopers of Oliver Cromwell made a stable of the cathedral. The cathedral, one of the finest ecclesiastical structures in England, has been built in different ages, the oldest part dating from about 1174. The great tower, 235 feet in height, is a splendid specimen of the Pointed style. Pop. (1901) 24,900.

Cantharis, or **Spanish Fly.** Externally used as a rubefacient in the form of a liniment, also as a vesicant in the form of the common blister.

Canticle, certain detached psalms and hymns used in the service of the Anglican Church. The word is also applied to that book of the Old Testament also known as the "Song of Solomon."

Canton, called also YANG-CHING, city of rams, a large commercial city and port in the south of China, and capital of the province of Kwang-tung, on the N. or left side of the Shukiang, or Pearl river, in a rich alluvial plain, 70 miles N. of Macao and 90 N. W. of Hong-kong. The city is surrounded by walls 25 to 40 feet high, 20 feet thick, with an esplanade inside, 6 miles in circumference; and it is divided by a partition wall running E. and W. into two unequal parts. There are 12 outer gates, four gates in partition wall, and two water gates, shut and guarded by night. The entire circuit, including suburbs, is nearly 10 miles. At the S. W. corner of the suburbs S. of the river, are the Hongs or European quarter, divided from the river by a quay, 100 yards wide. The streets, more than 600, are in general less than 8 feet wide, and very crooked. The houses along the water-side are built on piles and subject to inundations. Ancient barricades inclose each street, and in the principal streets night-watchmen in watch-towers proclaim the hours and sound fire alarms. The chief exports are tea, silk, and cassia; chief imports, cotton, woolen and metal goods. Pop. est. (1908) 900,000.

Canton, city and capital of Stark county, O.; on Nimishillen creek and the Baltimore & Ohio and other railroads; 59 miles S. E. of Cleveland; was long the home of President McKinley; manufactures steel bridges, steel cars, watches and watch cases, safes, locks, surgical chairs, steel roofing, and farming implements; and has a large trade in coal, wheat, corn, and oats. Pop. (1910) 50,217.

Canute, or **Cnut,** King of England and Denmark, succeeded his father Swegen or Sweyn on his death in England in 1014 A. D., and confirmed the Danish power in England. He died in 1036 at Shaftesbury, leaving Norway to his eldest son, Sweyn; to the second, Harold, England; to the third, Hardicanute, Denmark.

Canvas, a kind of coarse, unbleached linen cloth, used in old times for sifting, now for sails, tents, paintings, etc.

Canvas-back, a species of duck. It is a great favorite with huntsmen in the United States. It derives its name from the speckled feathers on the back.

Canzona, or **Canzone,** a short song, in which the music is of much more importance than the words.

Canzonet, a short song, one brief compared with the sacred airs of the oratorio, or with the aria of the Italian opera.

Caoutchouc, india-rubber, an elastic, gummy substance, consisting of the inspissated juice of various more or less milky species of plants. It exists to a certain extent in most milky plants. Caoutchouc was first exported to Europe early in the 18th century. Chas. Goodyear invented the vulcanizing process, which by compounding with it a small amount of sulphur renders it as hard as horn, and well adapted for various purposes in the arts.

Cap, in ships, a strong piece of timber placed over the head or upper end of a mast, having in it a round hole to receive the top or top-gallant masts.

Cape Breton, an island of the Dominion of Canada, separated from Nova Scotia, to which province it belongs, by the narrow Gut or Strait of Canso; area 3,120 square miles. Timber, fish, and coal are exported. The island belonged to France from 1632 to 1763, and Louisburg, its capital, was long an important military post. It was separate from Nova Scotia between 1784 and 1820. Chief town, Sydney. Pop. of Cape Breton, 84,500.

Cape Coast Castle, a settlement of Great Britain in the Gold Coast Colony, in Upper Guinea, 315 miles W. of Lagos. The place lies in a chasm, and is defended by the great castle near the water's edge, and by three small forts on the hills behind. Ceded by the Dutch to the English in 1665, Cape Coast Castle, from 1672, was possessed by several British African companies till 1843, when it was taken over by government. In 1875 it was superseded by Accra as capital of the Gold Coast. Pop. 11,614.

Cape Cod, a noted peninsula of the United States on the S. side of Massachusetts Bay; 65 miles long and from 1 to 20 broad.

Cape Colony, a former British colony at the S. extremity of Africa; since 1910 a province in the Union of South Africa. It extends about 450 miles from N. to S. and 600 from E. to W.; the coast line is about 1,300 miles. The area is 276,995 square miles; the pop. 2,409,804.

The province is better adapted for pasturage than for agriculture. All kinds of vegetables and pot herbs, and all the fruits of temperate climates thrive excellently, and fruits, dried and preserved, are exported. The vine is cultivated, and some excellent wines are made.

Sheep-rearing is the most important industry, and wool is the chief export (although surpassed in value by diamonds). Cattle-breeding is carried on to some extent, especially along the coasts and in the E. and N. districts. There are no manufactures of any importance.

The European inhabitants consist in part of English, Scottish, and Irish settlers and their descendants, but the majority are of Dutch origin, while there are also a considerable number of German origin. The colored people are chiefly Hottentots, Kaffirs, Bechuanas, Basutos, Griquas, Malays, and a mixed race, the offspring of black women and white fathers.

The constitution which was formed under the acts passed in the years 1853, 1865, and 1872 vested the executive in the governor and an executive council composed of office-holders appointed by the crown. The legislative power was in the hands of a legislative council of 23 members, elected for seven years, and a house or assembly of 95 members, elected for a term of five years.

The Dutch, who had early fixed upon the Cape as a watering-place for their ships, first colonized it under Van Riebeek, in 1652. It was captured by the British in 1795, restored at the peace of Amiens (1802), and again taken in 1806. From this time it has remained in the possession of Great Britain, to which it was formally assigned in 1815, along with Dutch Guiana. Subsequently the area of the colony was gradually enlarged by the annexation of surrounding districts. See SOUTH AFRICA, UNION OF.

Cape Fear River, a river of North Carolina; navigable for steamboats for 120 miles from its mouth.

Cape Finistere, the westernmost point of Spain, in the province of Corunna, extending S. W. into the Atlantic.

Cape Hatteras, a dangerous cape on the coast of North Carolina off which many wrecks have occurred.

Cape Haitien, a town on the N. coast of Haiti. It has an excellent harbor. Pop. about 15,000.

Cape Horn, or **The Horn,** the extremity of an island of the same name, forming the extreme S. point of South America. It is a dark, precipitous headland, 500 to 600 feet high, running far into the sea. Navigation round it is dangerous on account of frequent tempests.

Capella, the name of a star situated in the constellation Auriga, and is of remarkable brilliancy.

Cape Matapan, a promontory of Greece, forming the S. extremity of the Peloponnesus.

Capen, Elmer Hewitt, an American educator, born in Stoughton, Mass., April 5, 1838; graduated at Tufts College, and became a lawyer and later a Universalist clergyman. From 1875 he was president of Tufts College. He died Mar. 22, 1905.

Capen, Nahum, an American historical writer; born at Canton, Mass., 1804; was postmaster of Boston, Mass.; introduced street letter-box collections. He died Jan. 4, 1886.

Cape Nome, a cape and center of a remarkably rich gold mining region, on the S. face of the peninsular projection of Alaska, which separates Kotzebue Sound on the N. from Bering Sea on the S., and terminates on the W. in Cape Prince of Wales.

In a direct line of navigation, it lies about 2,500 miles N. W. of Seattle, and 175 miles S. E. of Siberia. The nearest settlement of consequence to it prior to 1899 was St. Michael, 100 miles to the S. E., but that year various mining camps built themselves up in closer range and reduced the distance some 60 miles. The Nome district as settled centers about the lower course of the Snake river, which discharges into the sea at a position 13 miles W. of Cape Nome proper.

The first discovery of gold was made in September, 1898, but it was not until July, 1899, that the beach gold was discovered. In the middle of October following Nome City had 5,000 inhabitants. The yield of gold has been very great, and the district is being extensively exploited.

Cape Nun, a headland on the W. coast of Morocco, extending into the sea at the S. W. extremity of the Atlas range.

Cape of Good Hope, a promontory near the S. extremity of Africa, at the termination of a small peninsula extending S. from Table mountain, which overlooks Cape Town. Bartholomew Diaz, who discovered the Cape in 1487, called it Cape of Storms; but John II. of Portugal changed this to its present designation. It was first doubled by Vasco de Gama in 1497. Here is one of the principal astronomical institutions of the world.

Cape Ortegal, a rugged promontory forming the N. extremity of Spain, extending into the Bay of Biscay.

Caper, the unopened flower-bud of a low trailing shrub which grows in the countries bordering the Mediterranean. Pickled in vinegar and salt they are much used as a condiment.

Capercailzie, a species of grouse, of large size, formerly indigenous in the highlands of Scotland, but which became extinct, and had to be reintroduced from the Scandinavian Peninsula.

Cape River, or Rio de Segovia, a river of Nicaragua, which after a generally N. E. course of nearly 300 miles enters the Caribbean Sea, after forming part of the boundary between Honduras and Nicaragua.

Capernaum, a city of Galilee in Palestine, about 70 miles N. by E. of Jerusalem, situated on the N. W. shore of the Sea of Tiberias. It was here that Jesus Christ began his public ministry; and in its neighborhood he delivered the Sermon on the Mount

Capers, Ellison, an American clergyman; born in Charleston, S. C., Oct. 14, 1837. He entered the Protestant Episcopal ministry in 1867, and was chosen bishop of South Carolina in 1893. He died April 22, 1908.

Cape St. Vincent, the S. W. point of Portugal.

Capet, the name of the French race of kings which has given 118 sovereigns to Europe, viz., 36 kings of France, 22 kings of Portugal, 11 of Naples and Sicily, 5 of Spain, 3 of Hungary, 3 emperors of Constantinople, 3 kings of Navarre, 17 dukes of Burgundy, 12 dukes of Brittany, 2 dukes of Lorraine, and 4 dukes of Parma.

Cape Town, a city and capital of Cape Colony, South Africa; became the seat of the Parliament of the new Union of South Africa in 1910. Pop. (1910) 169,641.

Cape Verde, the most westerly headland of Africa, jutting out into the Atlantic Ocean, between the rivers Gambia and Senegal.

Cape Verde Islands, a group in the North Atlantic Ocean, belonging to Portugal, about 370 miles W. of

Cape Verde, which, as well as the islands, derives its name from the greenish tinge given to the adjoining sea by the abundance of sea-weed. The group consists of 14 islands, besides islets and rocks, having a united area of about 1,790 square miles. They are, in general, mountainous, rocky, and very ill supplied with water; all are evidently of volcanic origin. The climate is exceedingly unhealthy, and droughts are of frequent occurrence. The pop. (1900, 147,424) is a mixed race of Portuguese and negroes. These islands were discovered in 1450. During the early part of the war between the United States and Spain (1898), the islands were made the rendezvous of the Spanish fleet under Cervera.

Cape Wrath, a pyramidal promontory of unrivaled wildness and grandeur, the N. W. extremity of Scotland and running out into the Atlantic.

Capillaries. The tubes which convey the blood from the left side of the heart to the various parts of the body are called arteries, while those which return it to the right side of the heart are known as veins. The name capillaries is given to the minute vessels which form the connection between the terminal branches of the arteries and the commencement of the trunks of the veins.

Capita, an expression of frequent occurrence in laws regulating the distribution of the estates of persons dying intestate. When all the persons entitled to shares in the distribution are of the same degree of kindred to the deceased person, and claim directly from him in their own right, and not through an intermediate relation, they take per capita, that is, in equal shares, or share and share alike.

Capital, the surplus of individual or national wealth which remains after current necessities have been met. It consists of what are popularly called savings. It is available for the employment of new labor, and if this be done judiciously it will produce a further surplus; or, in other words, the capital will increase. In every well ordered community it tends to do so indefinitely. Capital and labor mutually require each other, and are not natural foes, but natural friends.

Capital, in geography, a city in which reside the highest authorities of a district, province, country, etc.

Capital Punishment. The punishment of crime by death. In the United States the method is usually by hanging, except in New York, Ohio, New Jersey, Massachusetts, North Carolina, and Virginia, where electricity is used. In Utah a condemned murderer may choose shooting instead of hanging. Capital punishment has been abolished in Rhode Island, Maine, Michigan, Kansas, and Wisconsin, and Colorado and Iowa abolished but soon restored it.

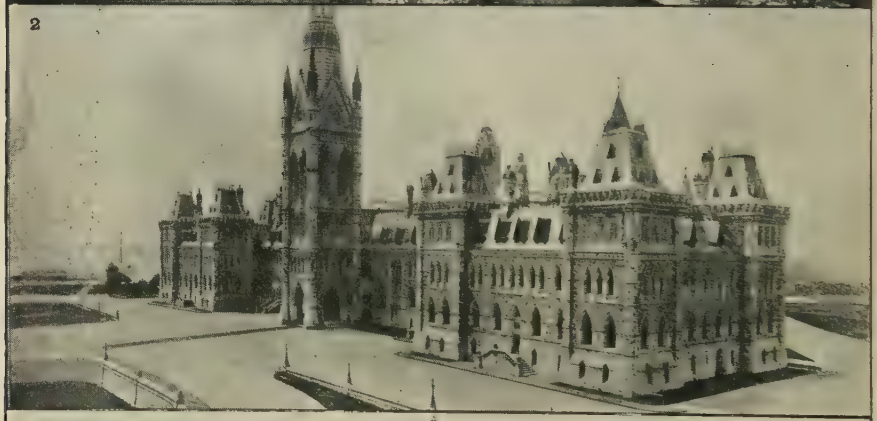
Capitation-grant, a grant of so much per head; specifically applied to grants from government or governing bodies to schools according to the number of scholars in attendance, or to the number of those passing a certain test examination, and to volunteer companies on account of such members as reach the stage of "efficients."

Capitation-tax, a tax or impost upon each head or person. Generally called a poll-tax in the United States.

Capito, or Kopfel, Wolfgang Fabricus, an Alsatian reformer; born in Haguenau in 1478, entered the Benedictine order, and became Professor of Theology at Basel, He approved of Luther's action, but nevertheless in 1519 entered the service of Albert of Mainz; and it was not till some years later that he finally declared for the Reformation. He died in Strasburg in November, 1541.

Capitol. A Roman height on which was erected a famous temple of Jupiter. The word is also applied to the building in which the Congress of the United States holds its sessions.

The S. E. corner-stone of the Capitol was laid Sept. 18, 1793, "by Brother George Washington, assisted by the Worshipful Masters and Free Masons of the surrounding cities, the military, and a large number of people." The N. wing was ready for occupancy in 1800, the S. wing in 1808; but both were partially destroyed by the British in 1814. The foundation of the main building was laid in 1818 (March 24), the restoration of the wings having been commenced three years earlier; and the whole was com-



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4—The Parliament House, London, England (Copyright Underwood & Underwood)
5—Chamber of Deputies, Vienna, Austria (Photo by Brown Bros., New York)
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pleted in 1827. July 4, 1851, the corner-stone of the S. extension was laid by President Fillmore, and this was finished in 1857. The N. extension was occupied by the Senate in 1859. The present dome, commenced in 1855, was completed eight years later, and Dec. 12, 1863, the American flag floated from its summit. The cost of the entire building was $13,000,000: main building, $3,000,000; dome, $1,000,000; extensions, $8,000,000; miscellaneous items, $1,000,000. The length of the entire building is 751 feet 4 inches; its greatest breadth, 324 feet, and it covers a little over 3½ acres. The distance from the ground to the top of the dome is 307½ feet; the diameter of the dome, 135½ feet. The buildings in which state legislatures meet are also called capitols, but in New England usually "State Houses."

Capitoline Games, annual public sports, instituted at Rome 387 B. C., in honor of Jupiter Capitolinus, and to commemorate the preservation of the city from the Gauls.

Capiz, a province of Panay (Visayas), Philippine Islands; on the N. coast; area, 1,661 square miles; pop. (1903) 230,721; capital, Capiz; pop. 18,525.

Capo d'Istrias, Ioannes Antonios, Count, was born in Corfu, Feb. 11, 1776; president of the Greek republic from 1828 to 1831. He devoted himself to political life, and in 1809 entered the diplomatic service of Russia. Here his policy tended to the separation of Greece from Turkey. In 1828 he entered on a seven years' presidency of Greece; but imbued as he was with Russian ideas, he aroused discontent by his autocratic measures; and on Oct. 9, 1831, he was assassinated in a church at Nauplia.

Capote, Domingo Mendez, a Cuban statesman; born in Cardenas in 1863; spent his youth there; was graduated at the University of Havana, and became one of the best known lawyers in Cuba. Subsequently he was a professor in the University of Havana for many years. In December, 1895, he joined the insurgents under Gen. Maximo Gomez; became a Brigadier-General; and was appointed civil governor of Matanzas and of Las Villas. In November, 1897, he was elected Vice-President of the Cuban Republic. When the Cuban Constitutional Convention appointed a commission of five members to confer with President McKinley and Secretary Root concerning the future relations of the United States and Cuba, he became its leader. The conference was held in Washington, D. C., in April, 1901.

Cappadocia, in antiquity, one of the most important provinces in Asia Minor, the greater part of which is included in the modern province of Karaman. It was conquered by Cyrus, and was ruled by independent kings from the time of Alexander the Great until 17 A. D., when it became a Roman province.

Capri, an island in the beautiful Gulf of Naples, remarkable for several remarkable caverns or grottoes in its steep rocky coast.

Capricornus "the Goat," one of the 12 signs of the Zodiac, between Sagittarius and Aquarius; also the corresponding zodiacal constellation, one of Ptolemy's original 48.

Caprimulgidæ, the goat-suckers, a family of birds, nearly allied to the swallow tribe.

Caprivi, Georg Leo, Graf von sometimes called CAPRIVI DE CAPRARA DE MONTECUCULI, a German soldier and statesman; born in Berlin, Feb. 24, 1831; entered the army in 1849; and in 1883 he became commander of his old army corps. Hence he was removed, on the fall of Bismarck, in 1890, to become Imperial Chancellor and Prussian Prime Minister. His principal measures were the army bills of 1892 and 1893, and the commercial treaty with Russia in 1894, in which year he resigned. He died at Skyren, Feb. 6, 1899.

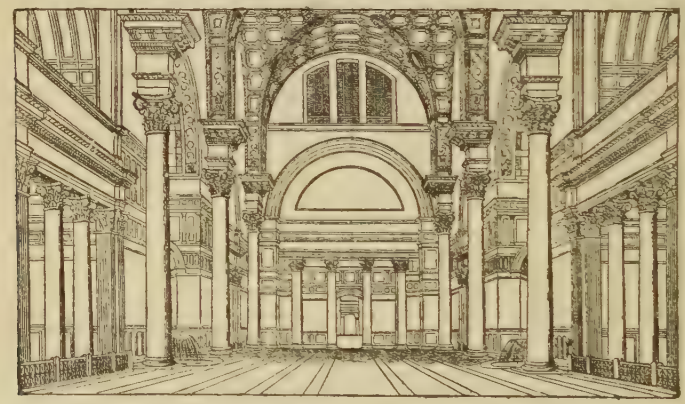
Capron, Allen Kissam, an American military officer (son of Allyn Capron); born in Brooklyn, N. Y., June 24, 1871. He enlisted as a private (1890), and rose to a second lieutenancy (1893), joining the "Rough Riders" on the outbreak of the war with Spain. He was made a captain for bravery, and was killed at Las Guasimas, Cuba, June 24, 1898.

Capron, Allyn, an American military officer; born in Tampa, Fla., Aug. 27, 1846. He was a son of Capt.

Erastus A. Capron, killed in the Mexican war, and was graduated at West Point in 1867. He rose to the rank of captain (1888), and in the war with Spain led an advance at the battle of Santiago. He further distinguished himself at El Caney. He contracted typhoid in Cuba and died at Fort Myer, Va., Sept. 18, 1898.

Capsicum, a genus of plants bearing membranous pods containing several seeds, noted for their hot, pungent qualities.

Capstan, a strong, massive apparatus of wood or iron made to revolve, and thus raise a heavy weight by winding a rope round it. It is especially used on shipboard for weighing the anchor.



HALL IN BATHS OF CARACALLA.

Captain, one who is at the head or has authority over others, especially: (1) The military officer who commands a company, whether of infantry, cavalry, or artillery. (2) An officer in the navy commanding a ship of war. (3) The master of a merchant vessel.

Capua (ancient Capoa or Capua), a strongly fortified city of Southern Italy, on the left bank of the Volturno, in a fine plain 18 miles N. of Naples. The city has a citadel, the work of Vauban, and is reckoned one of the keys of the kingdom. The ancient Capua was situated about 2½ miles from the modern city. The remains of its amphitheatre, said to have been capable of containing 100,000 spectators, and of some of its tombs, attest its former splendor and magnificence. It was destroyed by the Saracens, A. D. 840.

Capuchin Monkey, a name given to various species of South American monkeys of the genus Cebus. The hair of their heads is so arranged that it has the appearance of a capuchin's cowl, hence the name.

Capuchins, a branch of the Franciscan order of monks, founded by Matthew de Baschi, an Italian. So called from their peculiar capuche or cowl — a pointed hood attached to the ordinary Franciscan coat, and said to have been worn by St. Francis himself.

Capulets and Montagues, the English spelling of the names of the Cappelletti and Montecchi, two noble families of Northern Italy, according to tradition of Verona, chiefly memorable from their connection with the legend on which Shakespeare has founded his tragedy of "Romeo and Juliet."

Carabobo, a State of Venezuela, between the Caribbean Sea and the State of Zamora; area, 2,974 square miles; population, 198,021, mostly inhabiting the fertile depression of Lake Valencia, where large crops of coffee, sugar, and excellent cacao are grown. Capital, Valencia.

Caracal, a species of lynx, of a reddish-brown color, with black ears, tipped with long black hair. It is a native of Africa, India, Persia, and Turkey.

Caracalla, Marcus Aurelius Antoninus, eldest son of the Emperor Severus, was born in Lyons, A. D. 188. On the death of his father he succeeded to the throne with his brother, Antoninus Geta, whom he speedily murdered. To effect his own security upwards of 20,000 other victims were butchered. He was himself assassinated by Macrinus, the pretorian prefect, near Edessa, in 217. Among the buildings of Caracalla in Rome, the baths—Thermæ Caracallæ—near Porta Capena, were most celebrated, and their ruins are still magnificent.

Caracas, the capital of the Republic of Venezuela and of the Federal District, 6 miles (24 by rail) S. of La Guaira, its port. Built on the S. slope of the Avila (8,635 feet), it is 3,025 feet above the tide-level. The streets, built at right angles, are broad and well paved. There are a handsome promenade and numerous public parks and gardens; excellent water and gas plants; street railways; and the termini of several steam railways. Population 72,429.

Caracci, Ludovico, Agostino, and **Annibale,** born about the middle of the 16th century, were three of the first painters of Italy, kinsmen, fellow-students, and co-laborers, natives of Bologna, and founders of the Bolognese School.

Caraccioli, Francesco, an Italian admiral, born in Naples about 1748. When Ruffo took Naples in 1799 Caraccioli was arrested, and, contrary to the terms of capitulation, was condemned to death, and hanged at the yard-arm of a Neapolitan frigate, Lord Nelson consenting to his execution, June 29, 1799.

Caractacus, a king of the Britons, for nine years (43–50 A. D.) warred gallantly against the Roman invaders, but at length was completely overthrown by Ostorius in a battle near the border of South Wales. His wife and daughters fell into the hands of the victors, and his brothers surrendered. Caractacus himself fled to Cartismandua, queen of the Brigantes, who delivered him up. He was carried to Rome, 51 A. D., and exhibited in a triumphal procession by the Emperor Claudius, who was greatly impressed by his dauntless bearing and language. According to tradition he died in Rome about A. D. 54.

Caramel, the name of a certain preparation of candy.

Carat, a weight of 3½ grains; the tweny-fourth part of an ounce. It is used by jewelers to express the fineness of gold, the whole mass being supposed to be divided into 24 parts, and said to be so many carats fine, according to the number of twenty-fourth parts of pure gold contained in it. Twenty-four carat means all gold, 18 carat three-quarters gold.

Carausius, a Roman general, a native of Batavia. He was sent by the Emperor Maximilian to defend the Atlantic coasts against the Franks and Saxons; but foreseeing impending disgrace, he landed in Britain and had himself proclaimed emperor by his legions (287 A. D.). In this province he was able to maintain himself six years, when he was assassinated at York by one of his officers named Allectus (293 A. D.).

Caravaggio, Michel Angelo Amerighi, or **Merighi da,** a celebrated painter, born in Caravaggio in 1569. He died near Rome in 1609.

Caravan, a Persian word used to denote large companies which travel together in Asia and Africa for the sake of security from robbers, having in view, principally, trade or pilgrimages. Camels are used as a means of conveyance on account of their remarkable powers of endurance.

Caravansary, or **Caravansera,** a large public building, or inn, for the reception and lodgment of caravans in the desert. Though serving instead of inns, there is this essential difference between them, that the traveler finds nothing in the caravansary for the use either of himself or his cattle, but must carry all his provisions and necessaries with him. Caravansaries are also numerous in cities, where they serve not only as inns, but as shops, warehouses, and even exchanges.

Caravel, the name of different kinds of vessels, particularly a small

ship used by the Spaniards and Portuguese in the 15th and 16th centuries for long voyages. It was in command of three caravels that Columbus crossed the Atlantic and discovered America.

Caraway, a plant valued and cultivated for the sake of the well-known aromatic "caraway seeds" which it bears; these being, however, in strictness not seeds, but the mericarps, into which the fruit in this order splits when ripening. Caraways are chiefly used entire as a spice by bakers and confectioners.

Carbide, a compound formed by the union of carbon with an element, as iron or hydrogen.

Carbine, a fire-arm used by cavalry and artillery, shorter in the barrel than the ordinary musket or rifle. It was used by light cavalry as early as the 16th century.

Carbineers, or **Carabineers,** formerly light horsemen, used chiefly to watch and harass the enemy, defend narrow passes, and act as skirmishers.

Carbolic Acid, obtained by the dry distillation of salicylic acid. It is also formed by the dry distillation of coal, in the coal-tar oil. It is used as a disinfectant, and to preserve meat, etc. Taken internally it soon proves fatal, and its use should therefore be carefully guarded.

Carbon, the name of the element which exists, more or less pure, in charcoal, coke, coal and such bodies.

Carbonari, the name given to a secret political association in Italy, its professed aim being the reorganization and reform of the government of that country.

Carbondale, a city in Lackawanna county, Pa.; on the Lackawanna river and the Delaware & Hudson and other railroads; 16 miles N. E. of Scranton; is noted for its great deposits of anthracite coal, its extensive mining interests, and its manufactures of silk goods, chemicals, and machinery. Pop. (1910) 17,040.

Carboniferous, a term applied to the extensive and thick series of strata with which seams of paleozoic coal are more or less immediately associated. It is applied as well to that great system of formations which yield our main supply of coal, or to some divisions of that system, such as the Carboniferous limestone and the Carboniferous slates. It is also applied to the fossils found in any stratum belonging to the system.

Carborundum, an artificial abrasive, composed of carbon and clay fused together at a high temperature.

Carboy, a large and somewhat globular bottle of green glass protected by an outside covering of wickerwork or other material, for carrying vitriol or other corrosive liquid.

Carbuncle, a beautiful gem of a deep-red color with a mixture of scarlet, found in the East Indies. When held up to the sun it loses its deep tinge, and becomes exactly the color of a burning coal. The carbuncle of the ancients is supposed to have been a garnet.

Carbuncle, in surgery, an inflammation of the true skin and tissue beneath it akin to that occurring in boils. It is more extensive than the latter, and instead of one has several cores. It is associated with a bad state of general health, from which condition its danger arises, for it may threaten life by exhaustion or blood poisoning.

Carburetted Hydrogen, the name given to two compounds of carbon and hydrogen, one known as light carburetted hydrogen, and the other as olefiant gas.

Carcajou, a species of badger found in North America.

Carcanet, a necklace or collar of jewels.

Carcass, in military language, an iron case, with several apertures, filled with combustible materials, which is discharged from a mortar, howitzer, or gun, and intended to set fire to buildings, ships, and wooden defenses.

Card, an instrument for combing, opening, and breaking wool, flax, etc., and freeing it from the coarser parts and from extraneous matter. It is made by inserting bent teeth of wire in a thick piece of oblong board to which a handle is attached.

Cardamine, a pretty meadow plant, with large pale lilac flowers.

Cardamoms, the aromatic capsules of different species of plants of the natural order gingers employed in medicine as well as an ingredient in sauces and curries.

Cardboard, pasteboard paper stiffened by several layers being joined together.

Cardenas, a seaport of Cuba, on the N. coast, 75 miles E. of Havana, with which it is connected by rail. It has a good harbor, and exports sugar. Pop. (1899), 24,861, mostly whites. During the blockade of the Cuban coast in the war between the United States and Spain a severe engagement took place here on May 11, 1898.

Cardia, the heart; also the upper orifice of the stomach, called, on account of its vicinity to the heart, by the same Greek name.

Cardiff, ("the city on the Taff"), a municipal and parliamentary borough and seaport, the county town of Glamorganshire, Wales, situated at the mouth of the Taff on the estuary of the Severn. It is a rapidly increasing town, and the principal outlet for the mineral produce and manufactures of South Wales. Iron shipbuilding is carried on, and there are iron and other works on a large scale. Pop. (1901) 164,420.

Cardiff Giant, the name given to a rude statue 10½ feet high, dug up, in 1869, at Cardiff, N. Y., and exhibited for months as a petrifaction. The persons who thus deluded the public at last confessed that the "Giant" had been cut from a block of gypsum quarried at Fort Dodge, Ia., sculptured at Chicago, conveyed to Cardiff, and there buried and "accidentally discovered."

Cardigan, James Thomas Brudenell, seventh Earl of, born in Hampshire, Oct. 16, 1797; sat in the House of Commons from 1818 to 1837, when he succeeded his father. He entered the army in 1824, and rapidly bought himself into the command of the 15th Hussars, which he resigned in 1833, on the acquittal of an officer whom he had illegally put under arrest. He commanded a cavalry brigade under Lord Lucan in the Crimea, and led the famous charge of the Six Hundred at Balaklava. He was inspector-general of cavalry. 1855–1860, and died in Deene Park, March 28, 1868.

Cardigan Bay, a semicircular bend at St. George's Channel, on the W. coast of Wales, 54 miles wide from N. to S., and 35 miles deep, with a sweep of coast of 130 miles.

Cardinal, one of the body of counsellors of the Pope who, next to him, hold the highest dignity in the church. According to the present law the appointment of cardinals rests with the Pope, who generally consults the existing cardinals, and often receives proposals from secular governments. The cardinals in Conclave elect the new Pope, have constant access to him, and form his chief council. They have a vote at general councils, and since the 13th century, precedence over all other members. They have had since Urban VIII. the title of "Eminence." The body of cardinals is called the Sacred College. Their insignia are the red cardinal's hat, which is given them by the Pope, and not worn, but suspended in the church of their title, and finally buried with them; the red biretta, the sapphire ring, the mitre of white silk, etc. If a cardinal holds an episcopal see, he must reside there; otherwise he must not leave Rome without permission. At the head of the college of cardinals stands the dean, who is usually Bishop of Ostia and senior of the cardinal bishops. It is he who consecrates the newly-elected Pope, if not already a bishop. In the United States the first cardinal was McCloskey (1875); the second, Gibbons (1886). Gibbons was the first American cardinal to take part in the election of a pope — that of Pius X. in 1903.

Cardinal Bird, a North American bird of the finch family, with a fine red plumage, and a crest on the head. Its song resembles that of the nightingales, hence one of its common names.

Cardinal Points, the N., S., E., and W. points of the horizon; the four intersections of the horizon with the meridian and the prime vertical circle.

Cardinal Virtues, or **Principal Virtues,** in morals, a name applied to justice, prudence, temperance, and fortitude.

Carding, the process wool, cotton, flax, etc., undergo previous to spinning to lay the fibers all in one direction, and remove all foreign substances.

Carditis, inflammation of the heart substance.

Cardoon, a perennial plant belonging to the same genus as the artichoke, and somewhat resembling it. It is a native of Canada.

Cards, oblong pieces of pasteboard, inscribed with certain figures and points, and used in various games of skill and hazard. The origin of this invention is obscure. An immense variety of games are played with cards, some involving chance only, some combining chance and skill, the best of them furnishing very agreeable and intellectual amusement.

Carducci, Giosue, an Italian poet and philologist, born in Valdicastello, Tuscany, July 27, 1836. He was Prof. of Literature at Bologna Univ. from 1860. He died Feb. 15, 1907.

Carew, Thomas, an English poet; born in 1598. He stood high in favor with Charles I., and was an intimate friend of the greatest poets and scholars of his time. He died in 1639.

Carey, Henry Charles, an American economist, born in Philadelphia, Dec. 15, 1793; trained in his father's publishing house, he accumulated a competence from the business and retired to devote himself to study. The "Essay on the Rate of Wages" (1836) and "The Principles of Political Economy" (1837–1840) won him an authoritative international position. He died in Philadelphia, Oct. 13, 1879.

Carey, Mathew, an American publisher and prose writer, born in Ireland, Jan. 28, 1760. The best known of his political writings was his "Olive Branch" (1814). It was an effort to promote harmony among political parties during the War of 1812. It passed through ten editions. In 1819 he published his "Irish Vindications," and in 1822, "Essays on Political Economy." He died in Philadelphia, Pa., Sept. 16, 1839.

Carey, William, an English Oriental scholar and missionary, born in Northamptonshire, Aug. 17, 1761. He was early apprenticed to a shoemaker, but having a natural turn for languages, and zeal for the spread of the Gospel, he acquired Latin, Greek, and Hebrew, and likewise studied theology. In 1786 he became pastor of a Baptist congregation at Moulton, and in 1787 was appointed to a similar situation in Leicester. In 1793 he sailed for the East Indies as a Baptist missionary, and in 1800, in conjunction with Marshman, Ward, and others, he founded the missionary college at Serampore. Here he had a printing press, and issued various translations of the Scriptures. His first work was a "Bengali Grammar," and later, under his direction the whole Bible was translated into 6, and the New Testament into 21 Hindustani dialects. He was long professor of Sanskrit, Mahratta, and Bengali, in Calcutta. He died in Serampore, India, June 9, 1834.

Carhart, Henry Smith, an American scientist, born in Coeymans, N. Y., March 27, 1844. He was graduated at Wesleyan University in 1869 and since then has taught physics and chemistry. Since 1886 he has been Professor of Physics at the University of Michigan.

Caria, a country of Asia Minor, whose boundaries have been dissimilar in different ages. Its chief town was Halicarnassus.

Cariacou, the Virginia deer. It is somewhat smaller than the common stag.

Cariama, a bird, a native of Brazil and Paraguay. The head is crested.

Carib, the name given by the early European navigators to the inhabitants or aborigines found on the smaller of the West India Islands, and also inhabiting some part of the adjacent American continent. The Spaniards, finding them always a bold and determined enemy, finally expelled all but a mere remnant from their native possessions. Those who escaped the Spanish sword sought refuge in that part of Southern America near the mouth of the Orinoco, except a few whom the English removed and landed on the island of Ruatan, in the Bay of Honduras. The Carib have always been distinguished from the rest of the American peoples by their athletic stature, firmness, courage, and resolution.

Caribbean Sea, the grandest inlet of the Western hemisphere, separated from the Gulf of Mexico by Yucatan, and from the Atlantic Ocean by the great arch of the Antilles.

Caribbees, or **Lesser Antilles,** usually divided into the Windward and Leeward Islands, a section of the West India Islands.

Cariboo, or **Caribou,** an animal, the American Woodland Reindeer, the Attehk of the Cree, and Tantseeah of the Copper Indians. It is employed by the Laplanders to draw their sledges.

Carica, a genus of plants which contains about ten species, all natives of tropical America.

Caricature, a representation of the qualities and peculiarities of an object, but in such a way that beauties are concealed and peculiarities or defects exaggerated, so as to make the person or thing ridiculous, while a general likeness is retained.

Caries, a disease of bone analogous to ulceration in soft tissues. The bone breaks down into unhealthy matter, which works its way to the surface and bursts. Caries of the teeth is decay of the dentine or body of the tooth.

Carillon, a species of chime, played by hand or clockwork on a number of bells, forming a complete series or scale of tones or semi-tones, like those of the organ or harpsichord.

Carinthia, a W. duchy or province of Austria, on the borders of Italy; area, 4,006 square miles. It is extremely mountainous, generally sterile, and one of the most thinly populated provinces of Austria. The iron, lead, and calamine mines are the main sources of its wealth, though there are several manufactories of woolens, cottons, silk stuffs, etc., most of which are in Klagenfurt, the capital. Pop. (1900), 367,340.

Carisbrooke, a village near the center of the Isle of Wight, and overlooked by the ruins of its ancient castle, where Charles I. was imprisoned 13 months previous to his trial and execution.

Carlen, Emilia Flygare, a Swedish novelist, born at Stromstad, Aug. 8, 1807. She died in Stockholm, Feb. 5, 1892.

Carlen, Rosa, a Swedish novelist, born in 1836; died in 1883.

Carleton, Henry Guy, an American journalist and dramatist, born in Fort Union, New Mexico, June 21, 1855. He pursued journalism in New Orleans and New York City, and has written several plays. D. in 1910.

Carleton, Will, an American poet, born in Hudson, Mich., Oct. 21, 1845. He is best known in literature by his ballads of home life, many of them having gained great popularity.

Carleton College, a co-educational institution in Northfield, Minn.; organized in 1866 under the auspices of the Congregational Church.

Carli, Giovanni Rinaldo, an Italian economist and archæologist, born in Capo d'Istria, April 11, 1720; died Feb. 22, 1795.

Carlisle, Richard, an English Radical, born in Ashburton, Devonshire, Dec. 8, 1790; died Feb. 10, 1843.

Carlisle, an ancient city of England; the capital of Cumberlandshire; at the confluence of the Caldew and Eden rivers. Pop. (1901) 45,500.

Carlisle, borough and county-seat of Cumberland county, Pa.; on the Cumberland Valley, and the Gettysburg and Harrisburg railroads; 18 miles W. of Harrisburg. It is the site of Dickinson College, Metzger Female College, and the United States Indian Training School. It was the headquarters of Washington during the Whiskey Rebellion in 1794, and was bombarded by the Confederates in 1863. Pop. (1910) 10,303.

Carlisle, John Griffin, an American statesman, born in Kenton county, Ky., Sept. 5, 1835; received a common-school education, studied law, and was admitted to the bar (1858). He served several terms in the lower house of the State Legislature. During the Civil War he actively opposed secession, and in 1866 and 1869 was a member of the State Senate. He was lieutenant-governor of Kentucky (1871–1875), was elected to Congress (1876), and five times reëlected. His ability soon made him one of the Democratic leaders. In the 48th, 49th, and 50th Congresses he was chosen Speaker. In 1890 he was elected United States Senator, but resigned in March, 1893, to accept the

portfolio of Secretary of the Treasury. At the close of his term he settled in New York City to practice law. He died July 31, 1910.

Carlists, a Spanish political faction which advocates the claims of Carlos of Bourbon and his descendants to the Spanish throne. In 1833 they revolted and held the advantage until 1836, when Espartero inflicted on them a terrific defeat at Luchana. In August, 1839, their commander, Maroto, treacherously made peace, and the remaining Carlists soon fled to France. In 1873 the grandson of the first pretender raised another revolt, but after several sharp conflicts was defeated, and in 1876 with his chief supporters fled into France.

Carll, John Franklin, an American geologist, born in Long Island, N. Y., May 7, 1828. He became identified with coal oil development early in life, and has perfected many oil pumping devices. Since 1874 he has been connected with the Pennsylvania Geological Survey.

Carlos, Don, Duke of Madrid, nephew of Don Carlos of Montemolin, born March 30, 1848. On the death of his uncle (1861) he became head of the Carlist party. In 1872 he issued a manifesto to the Carlist party at Madrid and appeared in the Basque provinces, but was badly defeated at Oroquieta and fled back to France. In 1873 he reappeared in the N. provinces of Spain; captured the stronghold Estella, and had soon overrun Navarre, Catalonia, Aragon, and Valencia, with the exception of the great cities. By February, 1876, the rebels were hemmed in along the N. coast, and the majority surrendered at Pamplona. He himself fled over the French border, and has since lived in exile and comparative poverty. During the Spanish-American War he came into notice again, and on April 13, 1898, from his retreat in Switzerland, issued a manifesto to his supporters; but he accomplished nothing and again went into retirement. He died July 8, 1909.

Carlos I., King of Portugal; born in 1863, formerly known as Duke of Braganza, son of Louis I. He married, in 1886, Marie Amelie de Bourbon, daughter of the Count of Paris. On Feb. 1, 1908, both the King and Crown Prince Luiz were assassinated in Lisbon. He was succeeded by his second son, Manuel II., who was dethroned in 1910.

Carlotta, Ex-empress of Mexico, born in Brussels, June 7, 1840, the daughter of Leopold I. of Belgium. She was married to Maximilian, Archduke of Austria (1857). She accompanied her husband to Mexico in 1864, but in 1866 returned to Europe to solicit aid from the French Emperor and from the Pope. Her failure and the news of her husband's overthrow unbalanced her mind. She still lives near Brussels.

Carlovingians, the second dynasty of the French or Franklin kings, which supplanted the Merovingians, deriving the name from Charles Martel or his grandson Charlemagne (that is, Karl or Charles the Great).

Carlsbad, a town in Bohemia, on the Tepl, near its influx to the Eger, 116 miles W. by N. of Prague. It is widely celebrated for its hot mineral springs, and is frequented in summer by visitors of the most aristocratic character from all parts of Europe.

Carlskrona, the capital of the Swedish province, built on five rocky islets in the Baltic, 240 miles S. S. W. of Stockholm. It has a magnificent harbor, with a sufficient depth of water to float the largest vessels. The only practicable entrance is strongly defended. Pop. (1901) 23,955.

Carlsruhe, or **Karlsruhe,** the capital of the grand-duchy of Baden, founded in 1715, and built in the form of a fan, with 32 streets radiating from the palace. Before the palace stands a bronze statue of the city's founder, the Margrave Charles William; and in the market-place is a stone pyramid inclosing his remains. Pop. (1900) 96,976.

Carlstadt, a fortified town of Croatia, Austro-Hungary, on the Kulpa, 32 miles S. W. of Agram by rail. It is the seat of a Greek bishopric, and has a large transit trade. Carlstadt, in Bavaria, on the Maine, is 15 miles N. N. W. of Wurzburg.

Carlstadt, Andreas Rudolf Bodenstein, a German reformer, born in Carlstadt in 1480. He was appointed professor of theology at Wittenberg

in 1513. About 1517 he became one of Luther's warmest supporters. He was excommunicated by the bull against Luther, and was the first to appeal from the Pope to a general council. In 1524 he declared himself publicly the opponent of Luther, and commenced the controversy respecting the sacrament, denying the bodily presence of Christ in the sacramental elements. This controversy ended in the separation of the Calvinists and Lutherans. After many misfortunes he settled as vicar and professor of theology at Basel, where he died, Dec. 25, 1541.

Carlyle, Jane Welsh, wife of Thomas Carlyle; born in Haddington, Scotland, July 14, 1801. She claimed descent from William Wallace and John Knox and was from youth remarkable for beauty, wit and intellect. Her "Letters," edited by her husband, were published in 1883, the work being given to the world by J. A. Froude. She died in London, April 21, 1866.

Carlyle, Thomas, author, born in Ecclefechan, Dumfriesshire, Scotland, Dec. 4, 1795. He was the eldest son of James Carlyle, a mason, afterward a farmer, and was intended for the Church, with which object he was carefully educated. His first literary productions were short biographies and other articles for the "Edinburgh Encyclopædia." His career as an author may be said to have begun with the issue in monthly portions of his "Life of Schiller" in the London Magazine, in 1823, this work being enlarged and published separately in 1825. The largest and most laborious work of his life was "The History of Friedrich II. of Prussia, called Frederick the Great," the last two volumes of which appeared in 1865, and after this time little came from his pen. While still in Scotland the sad news reached him that his wife had died suddenly in London. Toward the end of his life he was offered a government pension and a baronetcy, but declined both. Carlyle died in Chelsea, Feb. 5, 1881.

Carman, Elbert S., an American editor, born in Hempstead, N. Y., in 1836. He became owner and editor of the "Rural New Yorker" in 1876, in connection with which publication he established a farm at River Edge, N. J., where he gave much of his time to testing new plants, vines and seeds. He died in New York City, Feb. 28, 1900.

Carman, Ezra Ayers, an American military officer; born in Metuchen, N. J., Feb. 27, 1834. He served through the Civil War in the Army of the Potomac and the Army of the Cumberland; became a Brigadier-General, U. S. V. He died Dec. 25, 1909.

Carmagnole a dance accompanied by singing. Many of the wildest excesses of the French revolution of 1792 were associated with this dance. It was afterward applied to the bombastic reports of the French successes in battle. The name was also given to a sort of jacket worn as a symbol of patriotism.

Carmel, a range of hills in Palestine. It has a length of about 16 miles, and its highest point is 1,850 feet above the sea.

Carmelite, an order of mendicant friars. They claim to be in direct succession from Elijah, but their real founder was Berthold, a Calabrian, who, with a few companions, migrated to Mount Carmel about the middle of the 12th century, and built a humble cottage with a chapel, where he and his associates led a laborious and solitary life. The order is divided into two branches, viz., the Carmelites of the ancient observance, called moderate or mitigated, and those of the strict observance, who are known as the barefooted Carmelites.

Carmen Sylva, the pen-name of Elizabeth, Queen of Rumania, born Dec. 29, 1843; the daughter of Prince Hermann of Wied Neuwied, and Maria of Nassau; married King (then Prince) Charles of Rumania in 1869. Her only child, a daughter, died in 1874, and out of this great sorrow of her life arose her literary activity In the war of 1877–1878 she endeared herself to her people by her devotion to the wounded soldiers, and since that time she has diligently fostered the national women's industries.

Carminative, a substance which acts as a stimulant to the stomach, causing expulsion of flatulence, also allaying pain and spasm of the intestines. Most of the ordinary condi-

ments, as pepper, mustard, ginger, cinnamon, cloves, nutmeg, oil of peppermint, etc., are carminative.

Carmine, the fine red coloring matter or principle of cochineal. It is used in dyeing.

Carnac, a village of Brittany, France, remarkable for the so-caned Druidical monuments in this vicinity. These consist of 11 rows of unhewn stones, which differ greatly both in size and height, the largest being 22 feet above ground, while some are quite small. These avenues originally extended for several miles, but many of the stones have been cleared away for agricultural improvements. They are evidently of very ancient date, but their origin is unknown.

Carnatic, a region on the E. or Coromandel coast of India, now included in the province of Madras. The Carnatic is no longer an administrative division, but is memorable as the theater of the struggle betwen France and England for supremacy in India.

Carnation, in the fine arts, flesh color; the parts of a picture which are naked or without drapery, exhibiting the natural color of the flesh.

Carnation, the popular name of the clove-pink. Carnations are much prized for the beautiful colors of their sweet-scented double flowers.

Carneades, a Greek philosopher, born in Cyrene, in Africa, about 213 B. C. He studied logic at Athens under Diogenes, but became a partisan of the Academy, and an enemy of the Stoics. In 155 B. C., along with Diogenes and Critolaus, he was sent as ambassador to Rome, but his philosophy made him enemies and caused his return. He died at Athens, 129 B. C.

Carnegie, Andrew, an American manufacturer and philanthropist, born in Dunfermline, Scotland, Nov. 25, 1835.

The elder Carnegie was a master weaver of Dunfermline, Scotland. But the newly invented steam machinery drove him and his four hand looms out of business, and in 1848 he and his wife with their two boys decided to follow some relatives across the ocean to America. Here Andrew began work in a steam cotton factory, tending bobbins. In less than a year he had been taken from the factory by one who had noticed the boy, and, in the new works, he learned how to run the engine and was promoted to this work, his salary of 20 cents a day not being increased, until he did clerical work for his employer as well — for he had some knowledge of arithmetic and wrote a good hand. He next became a messenger boy in the Ohio Telegraph Company, shortly after which his father died, and at the age of 14 he became the sole support of his mother and younger brother. But the weight on his shoulders was merely a spur to his ambition. He had not been in the office a month when he began to learn telegraphy, and a little friendly instruction soon had him spending all his spare minutes at the key. Characteristically, he was not content with the general custom of receiving by the tape, but doggedly mastered the clicking tongue of the instrument, until the supposed insecurity of taking messages by sound was found not to apply to him. He became an operator presently at a salary which seemed to him princely, though he augmented even this $25 a month by copying telegraphic news for the daily papers.

When the Pennsylvania railroad needed an operator he was chosen to fill the vacancy. A little later Colonel Scott selected him for his secretary; and before long, when Colonel Scott advanced to the vice-presidency of the road, the young man found himself superintendent of the Pennsylvania's Western Division.

One day as the young superintendent was examining the line from a rear car, a tall, thin man stepped up to him, introduced himself as T. T. Woodruff, an inventor, and asked if he might show him an idea he had for a car to accommodate passengers at night. Out came a model from a green baize bag.

"He had not spoken a minute before, like a flash, the whole range of the discovery burst upon me. 'Yes,' I said, 'this is something which this continent must have.'

"Upon my return I laid it before Mr. Scott, declaring that it was one of the inventions of the age. He remarked: 'You are enthusiastic, young man, but you may tell the inventor to come and let me see it.' I did so, and arrangements were made to build two trial cars, and run them on the Penn-

sylvania railroad. I was offered an interest in the venture, which, of course, I gladly accepted.

"The notice came that my share of the first payment was $217.50 — as far beyond my means as if it had been millions. I was earning $50 per month, however, and had prospects, or at least I always felt that I had. I decided to call on the local banker, and boldly ask him to advance the sum upon my interest in the affair. He put his hand on my shoulder and said: 'Why, of course, Andie, you are all right. Go ahead! Here is the money.' . . . The cars paid the subsequent payments from their earnings. I paid my first note from my savings, so much per month, and thus did I get my foot upon fortune's ladder. It is easy to climb after that. And thus came sleeping-cars into the world."

But the man had not yet struck his true vocation. That came presently, when his attention was drawn to the wooden bridges universally used at that time. The Pennsylvania road was experimenting with a cast-iron bridge. Andrew Carnegie went out and formed a company to build iron bridges. He had to raise $1,250, but he had behind him the confidence of a Pittsburg banker, and this proved easy.

From this time on the name of Andrew Carnegie is inseparably associated with that astonishing development of American iron and steel, which is among the modern wonders of the world. The Keystone Company built the first great bridge over the Ohio river; and the Union Iron Mills appeared in a few years as the natural outgrowth of this ramifying industry. Then, in 1868, Carnegie went to England. The Bessemer process of making steel rails had lately been perfected. The English railways were replacing their iron rails with steel ones as rapidly as possible. The English manufacturers were beginning to whisper to each other that they had a firm grip of a gigantic revolutionizing idea. The young Scotchman went back to Pittsburg, and before the Englishmen were well aware of his existence he laid the foundation of the steel works which have now finally beaten them at their own game.

The iron-master was now fairly launched on his life work. He bought up the Homestead works, his most formidable rival, and by 1888 he controlled seven huge plants, all within five miles of Pittsburg, which he proceeded to forge and amalgamate into a steel-armored giant, called the Carnegie Steel Company.

Next to his fame as the "Steel King," Carnegie is undoubtedly most widely known through his remarkable list of public benefactions in the shape of libraries, museums, and other worthy public objects, the total amount of which was estimated in 1910 at over $150,000,000. His most noteworthy gifts were $30,000,000 for public libraries in the United States; $16,000,000 for the Carnegie Institute in Pittsburg, Pa.; $15,000,000 for college professors' pensions; $10,000,000 for the Carnegie Institute in Washington, D. C.; $10,000,000 for libraries in foreign countries; $10,000,000 for Scotch universities; $5,000,000 for a Hero Fund in the United States, $1,250,000 for one in Scotland, and $1,000,000 for one in France; $5,000,000 for Carnegie Steel Company's employes; $5,000,000 for Dunfermline (Scotland) endowment; $7,500,000 for Carnegie Technical Institute at Pittsburg; $1,750,000 for Temple of Peace at The Hague; $1,500,000 for the Allied Engineers' Societies in New York; $750,000 for a building for the Bureau of American Republics in Washington, D. C.; $18,000,000 to colleges in the United States; $20,000,000 in miscellaneous gifts in the United States; and $2,500,000 in the same in Europe. He has published several books on business and public affairs.

Carnegie Institution, an educational body incorporated Jan. 4, 1902, in Washington, D. C., by John Hay, Secretary of State; Edwin D. White, Justice of the Supreme Court; Daniel C. Gilman, ex-president of Johns Hopkins University; Charles D. Walcott, superintendent of the United States Geological Survey; Dr. John S. Billings, Director of the New York Public Library; and Carroll D. Wright, United States Commissioner of Labor. The aims of the university, as expressed by the founder, are: (1) To increase the efficiency of the universi-

ties and other institutions of learning throughout the country by utilizing and adding to their existing facilities, and by aiding teachers in the various institutions for the experimental and other work in these institutions as far as may be advisable. (2) To discover the exceptional man in every department of study, whenever and wherever found to enable him by financial aid to make the work for which he seems especially designed his life work. (3) To promote original research, paying great attention thereto as being one of the chief purposes of this institution. (4) To increase the facilities for higher education. (5) To enable such students as may find Washington the best point for their special studies to avail themselves of such advantages as may be open to them in the museums, libraries, laboratories, observatory, meteorological, piscicultural, and forestry schools and kindred institutions of the several departments of the government. (6) To insure the prompt publication and distribution of the results of scientific investigation, a field considered to be highly important.

The board of trustees elected by the corporators of the institution was as follows: The President of the United States (ex-officio), the President of the United States Senate, the Speaker of the House of Representatives, the Secretary of the Smithsonian Institution, the President of the National Academy of Sciences, and Grover Cleveland (New Jersey), John S. Billings (New York), William N. Frew (Pennsylvania), Lyman J. Gage (Illinois), Daniel C. Gilman (Maryland), John Hay (District of Columbia), Abram S. Hewitt (New Jersey), Henry L. Higginson (Massachusetts), Henry Hitchcock (Missouri), Charles L. Hutchinson (Illinois), William Lindsay (Kentucky), Seth Low (New York), Wayne MacVeagh (Pennsylvania), D. O. Mills (California), S. Weir Mitchell (Pennsylvania), W. W. Morrow (California), Elihu Root (New York), John C. Spooner (Wisconsin), Andrew D. White (New York), Edward D. White (Louisiana), Charles D. Walcott (District of Columbia), and Carroll D. Wright (District of Columbia).

The trustees assembled in Washington on Jan. 29, 1902, received from Mr. Carnegie the deed of gift of $10,000,000, and elected Daniel C. Gilman, LL. D., president of the Institution.

Carnifex Ferry, a place on the Gauley river, in Nicholas Co., Va. A sharp battle occurred here Sept. 10, 1861, between Federal troops under General Rosecrans and Confederates under General Floyd. After nightfall Floyd retreated across the river.

Carnival, the festival celebrated in Roman Catholic countries, and especially in Rome and Naples, with great mirth and freedom during the week before the beginning of Lent. In the United States carnivals are annually celebrated in New Orleans, in St. Louis and in Memphis. That at New Orleans is especially spectacular, the festivities being prolonged three days and attracting thousands of visitors.

Carnivora. All animals which prey upon other animals are carnivorous, but the term Carnivora, as the designation of a group, is now restricted to that order of mammals to which the cat, dog, bear, and seal belong.

Carnivorous Plants, plants which derive nourishment directly from the bodies of insects or other small creatures entrapped by them in various ways. In all these the apparatus for catching insects consists of a modified leaf or portion of a leaf, and in some the modifications are so curious and the adaptations so perfect that the plant seems almost endowed with intelligence.

Carnochan, John Murray, an American surgeon, famous for his bold and skillful operations; born in Savannah, Ga., July 4, 1817; studied at Edinburgh and at various European universities; and began his practice in New York city in 1847. In 1851 he became professor of surgery at the New York Medical College, and surgeon-in-chief to the State Immigrant Hospital. He died in New York, Oct. 28, 1887.

Carnot, Lazare Hippolyte a French Democrat, born in St. Omer, April 6, 1801. After the February Revolution (1848) he was appointed Minister of Public Instruction, but soon resigned. He was elected a senator for life in 1875, and died March 16, 1888.

Carnot, Lazare Nicolas Marguerite, a French statesman, general, and strategist; born in Burgundy, May 13, 1753. In 1791 he was appointed deputy to the constituent assembly. In the following March he was sent to the Army of the North, where he took command and successfully repulsed the enemy. On his return he was made member of the Committee of Public Safety, and directed and organized the French armies with great ability and success. In 1797 Carnot was appointed Minister of War by Napoleon (1800). But he remained in principle an inflexible Republican, voted against the consulship for life, and protested against Napoleon's assumption of the imperial dignity. For seven years after this Carnot remained in retirement, publishing several valuable military works. In 1814 Napoleon gave him the chief command at Antwerp, and in 1815 the post of Minister of the Interior. After the Emperor's second fall he retired from France. He died in Magdeburg, Prussia, Aug. 3, 1823.

Carnot, Marie Francois Sadi, President of the French Republic; born in Limoges, Aug. 11, 1837; a grandson of the famous war minister of the Revolution. During the siege of Paris in 1871 he was made prefect of the Seine-Inferieure and showed great ability as commissary-general. In politics he was an earnest Republican. Elected to the National Assembly in 1871 by the Cote d'Or, he soon rose to prominence. In 1876 he was chosen secretary of the Chamber of Deputies; in 1878 Secretary of Public Works. He was Minister of Public Works in 1881–1882 and 1886. In December, 1887, on the resignation of M. Grevy he was chosen President. His policy was one of peace with foreign nations, careful development of the army and navy, and economy in all departments. While attending an exposition at Lyons, June 24, 1894, he was stabbed by a fanatical Italian Anarchist, from the effect of which he died the next day.

Caro, Miguel Antonio, a Colombian prose-writer and poet; born in Bogota, Colombia, Nov. 10. 1843. He became an editor and contributor to periodicals. He died Aug. 5, 1909.

Carob, a tree, native of the Levant. It is an evergreen, and produces long horn-like pods filled with a mealy, succulent pulp of sweetish taste, used for food for horses, and sometimes even for human beings, and called St. John's bread.

Carol, a song of praise sung at Christmastide. It originally meant a song accompanied with dancing, in which sense it is frequently used by the old poets.

Caroline, Queen of England; daughter of the Duke of Brunswick-Wolfenbuttel; born May 17, 1768. In 1795 she was married to the Prince of Wales, afterward George IV. The marriage was not to his liking, and after the birth of the Princess Charlotte he separated from her. Many reports were circulated against her honor, and a ministerial committee was formed to inquire into her conduct. But the people in general sympathized with her, regarding her as an ill-treated wife. When the Prince of Wales ascended the throne in 1820 he offered her an income of £50,000 on condition that she would never return to England. She refused, and in June of the same year entered London amid public demonstrations of welcome. The government now instituted proceedings against her for adultery, but the public feeling and the splendid defense of Brougham obliged the ministry to give up the divorce bill after it had passed the lords. Though banished from the court, the queen then assumed a style suitable to her rank. She died Aug. 7, 1821.

Caroline Islands, a group in the Western Pacific, lying between the Marshall and Pelew islands, with an area of about 270 square miles, and a population of some 22,000; but the Pelew group is now generally included in the Caroline Archipelago (area, 560 square miles; population 36,000), which thus stretches across 32° of lon. and 9° of lat. There are some 500 small atolls in the archipelago, but three-fourths of both area and population are included in the five volcanic islands of Babelthouap, Yap, Rouk, Ponape (Ascension), and Kusari (Strong Island); these are all fertile and well watered, and many of the low-lying lagoons, though less so, are well wooded and to some ex-

tent inhabited. The climate is moist, but not unhealthy, and is tempered by cooling breezes. The people belong to the brown Polynesian stock. The islands were discovered in 1527 by the Portuguese, and called Sequeira; in 1686 they were annexed and rechristened in honor of Charles II. by the Spaniards, who, however, shortly changed the name to New Philippines. After the failure of several missionary attempts in the 18th century, Spain took little active interest in the group until August, 1885, when the German flag was hoisted on Yap. The sharp dispute which followed was submitted to the Pope as arbitrator, who decided in favor of Spain, but reserved to Germany special trade privileges. In 1887 disturbances broke out at Ponape, in which the governor, who had arrested one of the American Protestant missionaries, was killed by the natives; but the rising was shortly put down. In February, 1899, Germany purchased from Spain the Caroline and Pelew islands, and all of the Ladrones excepting Guam, which had been ceded to the United States in the treaty of peace.

Carolinium, an element possessing radio-active powers of great intensity. With another named Berzelium, it was discovered in 1904, by Prof. C. Baskerville of North Carolina.

Carotid, the great arteries of the neck.

CARP.

Carp, a fresh-water fish. It is a native of Asia, but has been extensively introduced into the United States.

Carpathian Mountains, (German, Karpathen), a range of mountains in Southern Europe, chiefly in Austria, nearly 800 miles in length.

Carpeaux, Jean Baptiste, a French sculptor, born in Valenciennes, May 14, 1827; died Oct. 11, 1875.

Carpel, the leaf forming the pistil. Several carpels may enter into the composition of one pistil.

Carpentaria, Gulf of, a large gulf on the N. coast of Australia.

Carpenter, Charles Carroll, an American naval officer, born in Greenfield, Mass., Feb. 27, 1834. He was promoted rear-admiral Nov. 11, 1894; was commander-in-chief of the United States Asiatic squadron from Aug. 27, 1894, till Nov. 9, 1895; and was retired on reaching the age-limit, Feb. 28, 1896. During the summer of 1895 he rendered invaluable service in China in protecting American missionaries and in coöperating with United States Minister Charles Denby and the British and Chinese authorities to preserve peace, particularly after the Kucheng massacre. He died April 1, 1899.

Carpenter, Esther Bernon, an American prose writer, born in Wakefield, R. I., 1848; died in 1893.

Carpenter, Francis Bicknell, an American painter, born in Homer, N. Y., Aug. 6, 1830. In 1852 he became an associate of the National Academy. Among his works are a portrait of President Lincoln, in the capitol at Albany, N. Y., and the "Emancipation Proclamation" (1864), in the capitol at Washington. He died in New York city, May 23, 1900.

Carpenter, Gilbert Saltonstall, an American military officer, born in Medina, O., April 17, 1836; was admitted to the bar in 1861, and immediately afterward entered the Union army. He served through the Civil War, in which he received the brevet of captain for gallantry in the battle at Stone river. Subsequently he rendered service in various Indian campaigns; was commissioned a brigadier-general of volunteers in the war with Spain in 1898; and became colonel of the 18th United States Infantry, June 20, 1899. His volunteer appointment was for his gallantry at El Caney, Cuba. Died Aug. 12, 1904.

Carpenter, Louis G., an American engineer; born in Orion, Mich., March 28, 1861. In 1888 he became Professor of Engineering at the Colorado Agricultural College, where he organized the first course in irrigation engineering given in any Amer-

ican college. He founded the American Society of Irrigation Engineers in 1891.

Carpenter, Louis H., an American military officer, born in Glassboro, N. J., Feb. 11, 1829. He served in the Army of the Potomac through numerous engagements, was an aide-de-camp to General Sheridan, was commissioned colonel of volunteers in 1865, subsequently served in various Indian campaigns, became colonel of the Fifth United States Cavalry in 1897, and brigadier-general of volunteers in 1898, and brigadier-general, U. S. A., Oct. 18, 1899, for services in the Spanish-American war, and particularly as commander of the Department of Porto Principe, Cuba. He was retired Oct. 19, 1899.

Carpenter, Mary, an English philanthropist, born in Exeter, April 3, 1807. Trained as a teacher, and afterwards a governess, she took an active part in the movement for the reformation of neglected children, and besides advocating their cause in her writings, she founded a ragged school and several reformatories for girls. She founded in 1835 a "working and visiting society," of which she was secretary for more than 20 years. She promoted the Industrial Schools Act of 1857, and some of her proposals were adopted in the amended Acts of 1861 and 1866. In the prosecution of her philanthropic labors she visited India four times, and in 1870 instituted the National Indian Association, whose journal she edited. She attended a congress on women's work at Darmstadt as a guest of the Princess Alice, and visited the United States in 1873. She died June 14, 1877. She was the author of a number of popular books.

Carpenter, Matthew Hale, an American legislator, born in Moretown, Vt., Dec. 22, 1824. He studied at West Point, and was admitted to the bar in 1845. He removed in 1848 to Wisconsin and was sent to the United States Senate from that State in 1869 and in 1879. He died in Washington, D. C., Feb. 24, 1881.

Carpenter, Stephen Cutter, an American journalist, born in England. He came to the United States in 1803, and settled in Charleston, S. C., where he founded and published with John Bristed the "Monthly Register Magazine and Review of the United States." His works included: "Memoirs of Jefferson, Containing a Concise History of the United States from the Acknowledgment of Their Independence, with a View of the Rise and Progress of French Influence and French Principles in that Country." He died about 1820.

Carpenter, William Benjamin, an American physiologist, born in Exeter, Oct. 29, 1813; died Nov. 13, 1885.

Carpenter, William Henry, an American philologist, born in Utica, New York, July 15, 1853. He received a university education in the United States and Europe. Became professor of Germanic Philology in Columbia University. He has published numerous works in the line of his specialty.

Carpentry, the art of combining pieces of timber to support a weight or sustain pressure.

Carpet, a thick fabric, generally composed wholly or principally of wool, for covering floors. They were originally introduced from the East, where they were fabricated in pieces, like the modern rugs.

Carpet-bagger, a political adventurer, who goes about the country pandering to the prejudices of the ignorant with the view of getting into place or power, so called because regarded as having no more property than might fill a carpet-bag. Originally applied to needy adventurers of the Northern States, who tried in this way to gain the votes of the negroes of the Southern States after the close of the Civil War.

Carr, Eugene Asa, an American army officer, born in Concord, N. Y., March 20, 1830; graduated at the United States Military Academy in 1850. He was in active service throughout the Civil War, commanding the 4th Division of the Army of the Southwest, and subsequently acting as commander of the same army. In December, 1863, he was assigned to the Army of Arkansas. At the close of the war he was promoted to Brigadier-General, U. S. A., and brevetted Major-General of volunteers. In 1868-

1869 he was engaged against the Sioux and Cheyenne Indians, and afterward took part in other expeditions against hostile Indians. He fought in 13 engagements with Indians, was four times wounded in action, and received a Congressional Medal of Honor and the thanks of the Legislatures of Nebraska, Colorado, and New Mexico. Retired in 1893; died Dec. 2, 1910.

Carr, Joseph Bradford, an American military officer, born in Albany, N. Y., Aug. 16, 1828. He joined the militia in 1849. Was later appointed colonel of the 28th New York Volunteers, and led them at the battle of Big Bethel and in McClellan's Peninsular campaign. He took part in the battles of Chancellorsville and Gettysburg, and for his bravery throughout the war he was brevetted a Major-General of volunteers. After the war he became prominent in Republican politics in New York State and was elected Secretary of State in 1879, 1881, and 1883. In 1885 he was an unsuccessful candidate for lieutenant-governor. He died in Troy, N. Y., Feb. 24, 1895.

Carr, Lucien, an American archæologist, born in Missouri in 1829.

Carr, Sir Robert, a British commissioner in New England. In 1664 he was appointed commissioner by Charles II., with Nicolls, Cartwright, and Maverick. On Aug. 27, Carr and Nicolls captured New Amsterdam and named it New York. They took Fort Orange Sept. 24, and named it Albany. He died June 1, 1667.

Carrageen, or **Carrigeen,** called also Irish moss, a name applied to several species of marine algæ found abundantly near Waterford, Ireland, at a place called Carragheen, from which the name is derived. It is sometimes confounded with Iceland moss, which is a lichen.

Carrara, a town of Central Italy, in the province of Massa-Carrara. It is celebrated for the famous Carrara marble, a white saccharine limestone, which derives its value from its texture and purity. The quarries have been wrought from the age of Augustus, and seem to be now as inexhaustible as ever.

Carraray, a small island of the Philippine archipelago, about 30 miles long and 6 miles wide. It has coal deposits. The population is sparse and wholly uncivilized, subsisting by trade with the neighboring islands of Samar and Luzon.

Carreno, Teresa, a Venezuelan pianist, born in Caracas, Dec. 22, 1853. After successful tours in England, the United States and Germany, she was appointed, in 1893, court pianist to the King of Saxony.

Carriage, a general name for any vehicle intended for the conveyance of passengers either on roads or railways. Mounted on wheels.

Carrier, a person, corporation, or vehicle regularly employed in carrying goods, messages, or other articles.

Carrier, Jean Baptiste, an infamous character of the first French revolution, born in 1746. Though an obscure attorney at the beginning of the revolution, he was chosen, in 1792, member of the National Convention. In October, 1793, he was sent to Nantes to suppress the civil war, and to finally put down the Vendeans. The prisons were full; there was dearth of provisions, and Carrier determined to lessen the "useless mouths" by summary measures. He first caused priests to be conveyed to a boat with a perforated bottom, under pretense of transporting them, but instead they were drowned by night. Carrier also caused multitudes of prisoners to be shot without any pretense of trial. Some months before the fall of Robespierre, Carrier was recalled. On the 9th Thermidor (July 27), 1794, he was apprehended and brought before the revolutionary tribunal, which condemned him to the guillotine.

Carriere, Eugene, a French genre painter, born in 1849; was awarded several medals, and the Legion of Honor, 1889. Died March 27, 1906.

Carriere, Moriz, a German philosopher, born in Griedel, Hesse, March 5, 1817; died in Munich, Jan. 19, 1895.

Carrier Pigeon, a variety of the common domestic pigeon used for the purpose of carrying messages.

Carrillo, Branlio, a statesman of Costa Rica, born in Cartago in 1800. He was twice president of the republic (1835–1837 and 1838–1842), and greatly promoted its material prosper-

ity. Carrillo's government was overturned by Morazan in 1842. He was assassinated in Salvador in 1845.

Carrington, Edward, an American military officer, born in Virginia, Feb. 11, 1749; was lieutenant-colonel of General Harrison's artillery regiment, quartermaster-general under General Greene, a delegate to the Continental Congress, and foreman of the jury in Aaron Burr's trial for treason. He died Oct. 28, 1810.

Carrington, Henry Beebe, an American military officer, born in Wallingford, Conn., March 2, 1824. He began the practice of law in Columbus, O., in 1848, and took an active part in the anti-slavery movement. In the convention which met in 1854 to organize the Republican Party, Carrington was on the committee appointed to correspond with the different States and make the movement National. In 1861 he was appointed colonel of the 18th United States infantry, served through the war, and afterward was in service on the plains till 1869; was retired in 1870; Professor of Military Science and Tactics in Wabash College, Ind., till 1873.

Carrington, Paul, an American statesman, born in Charlotte county, Va., Feb. 24, 1733; was graduated at William and Mary College. He was a member of various conventions during the Revolution, and became a member of the Court of Appeals, and in the Virginia convention voted for the adoption of the Federal Constitution. He died June 22, 1818.

Carrington, Richard Christopher, an English astronomer, born in Chelsea, May 26, 1826. Died in Surrey, Nov. 26, 1876.

Carrion Crow, a name given to a small species of vulture called the Black Vulture.

Carroll, Charles, the last surviving signer of the Declaration of American Independence, born in Annapolis, Md., Sept. 20, 1737. He studied at Paris, became a member of the Inner Temple at London, returned to his native country in 1764, was elected to Congress in 1775, and, along with the other members, signed the Declaration on Aug. 2 of the following year. In 1804, he withdrew to private life at Carrollton, his patrimonial estate. He survived by six years all the other signers of the Declaration, and died in Baltimore, Nov. 14, 1832.

Carroll, Henry King, an American religious editor, born in Dennisville, N. J., Nov. 15, 1848. He supervised the compilation of religious statistics for the Eleventh Census, and in 1898 was chosen by President McKinley to prepare a report on the internal conditions of Puerto Rico.

Carroll, John, cousin of Charles Carroll, and first Roman Catholic bishop in the United States; born in Upper Marlboro, Md., Jan. 8, 1735. In 1775 he engaged in the duties of a parish priest, and in 1786 he was appointed vicar-general, and settled at Baltimore. In 1790 he was consecrated, in England, Catholic bishop of the United States, and returned with the title of Bishop of Baltimore. A few years before his death he was created archbishop. He died in Georgetown, D. C., Dec. 3, 1815.

Carrot, a biennial umbelliferous plant, cultivated for the table and as a food for cattle.

Carson, Christopher, commonly called Kit, an American trapper and scout, born in Kentucky, Dec. 4, 1809. He served under General Fremont in his Rocky Mountain expeditions, and fought in the Mexican and Civil Wars, attaining the rank of brevet Brigadier-General. He died at Fort Lynn, Col., May 23, 1868.

Carson, Hampton Lawrence, an American publicist, born in Philadelphia, Pa., Feb. 21, 1852. He was graduated at the University of Pennsylvania (1871), and is now a Lecturer on Law at that University.

Carson and Newman College, a co-educational institution in Mossy Creek, Tenn., organized in 1850 under the auspices of the Baptist Church.

Carson City, the capital of the State of Nevada. The city is located in a mining district and is the seat of a United States mint.

Carstens, Asmus Jakob, a Danish artist, born near Sleswick, May 10, 1754. He died in the deepest poverty in Rome, May 25, 1798.

Cart, a species of carriage. It has but two wheels, in which respect it differs from the ordinary wagon.

Cartagena, capital of the State of Bolivar, Republic of Colombia. The streets are narrow, with high houses, but the place is well built, and possesses a university, a handsome cathedral, and several churches. Pop. about 20,000.

Cartagena, or **Carthagena,** a fortified town and seaport of Spain, with a harbor which is one of the largest and safest in the Mediterranean. Pop. 84,171.

Cartago, (1) a river and almost landlocked bay or lagoon, communicating with the Caribbean Sea, near the N. extremity of the Mosquito Coast. (2) A town of Costa Rica, 12 miles E. of the present capital, San Jose, on a plain to the S. of the constantly smoking volcano of Irazu (11,500 feet). Founded in 1522, the place had 23,000 inhabitants in 1823, and was capital of the State till 1841, when it was all but destroyed by an earthquake. (3) A town of Cauca, in Colombia, founded in 1540, on the Rio Viejo, three miles above its junction with the Cauca, and producing cocoa, tobacco, and coffee.

Carte-blanche, a blank sheet of paper to be filled up with such conditions as the person to whom it is given may think proper; hence absolute freedom of action.

Carte-de-visite, a small likeness affixed to a card, so called from photographs of very small size having been originally used as visiting cards.

Cartel, an agreement for the delivery of prisoners or deserters; also, a written challenge to a duel. Cartel-ship, a ship commissioned in time of war to exchange prisoners.

Carter, Franklin, an American educator, born in Waterbury, Conn., Sept. 30, 1837; was president of Williams College in 1881-1901.

Carter, Samuel Powhatan, an American naval and military officer, born in Elizabethtown, Tenn., Aug. 6, 1819. He fought in the Mexican War in coast attack, and in 1856 took part in the capture of the Barrier forts, Canton, China. All through the Civil War he was of great service to the government, and for his gallantry was brevetted Major-General of volunteers. In 1882 he was promoted to Rear-Admiral on the retired list. He died in Washington, D. C., May 26, 1891.

Carter, Sir Frederic Bowker Terrington, a Canadian jurist, born in St. John's, Newfoundland, Feb. 12, 1819. He served in the Newfoundland Assembly from 1855 to 1878, and two years later became Chief Justice of Newfoundland. He was knighted in 1878. He died in St John's, Feb. 28, 1900.

Carter, Thomas Henry, an American politician, born in Scioto county, Ohio, Oct. 30, 1854. He removed to Montana in 1882, was Montana's first representative in Congress (1891), became United States Senator from that State in 1892, and was chairman of the National Republican Committee in 1892-1896.

Carteret, Sir George, one of the proprietors of New Jersey, born on the island of Jersey in 1599. He early manifested an interest in colonization, and became, with Sir John Berkeley, one of the proprietors of New Jersey. He died Jan. 14, 1679.

Carteret, Philip, an English navigator. As commander of the "Swallow," he joined an exploring expedition to the Southern seas, discovering Pitcairn, Osnaburg, Queen Charlotte, Sandwich and Solomon Islands, besides correcting several errors of former surveys. He retired from the navy in 1794, with the honorary rank of Rear-Admiral, and died in Southampton, July 21, 1796.

Carthage, the most famous city of Africa in antiquity, capital of a rich and powerful commercial republic, situated in the territory now belonging to Tunis. The policy of Rome in encouraging the African enemies of Cartnage occasioned the third Punic war, in which Rome was the aggressor. This war, begun B. C. 150, ended B. C. 146, in the total destruction of Carthage. After the destruction of Carthage her territory became the Roman province of Africa. Twenty-four years after her fall an unsuccessful attempt was made to rebuild Carthage by Caius Gracchus. This was finally accomplished by Augustus, and Roman Carthage became one of the most important cities of the empire. It was taken and destroyed by the Arabs in 638.

Carthage, city and capital of Jasper county, Mo.; near Spring river and on the Missouri Pacific and other railroads; 150 miles S. of Kansas City; is the center of an extensive lead region; and has zinc mines, stone and lime works, flour mills, canneries, woolen mills, and machine and furniture plants. It was the scene of a Civil War battle, July 5, 1861. Pop. (1910) 9,483.

Cartier, Sir George Etienne, a Canadian statesman, born in St. Antoine, Quebec, Sept. 6, 1814. He was active in bringing about the establishment of the Dominion of Canada in 1867. He died May 20, 1873.

Cartier, Jacques, a French navigator, born in St. Malo, Dec. 31, 1494. He commanded an expedition to North America in 1534, entered the Straits of Belle Isle, and took possession of the mainland of Canada in the name of Francis I. He subsequently went to found a settlement in Canada, and built a fort near the site of Quebec. He died about 1554.

Cartilage, a texture or substance possessed of elasticity, flexibility, and considerable cohesive power. Temporary cartilage is present in place of bone in very early life, and as development goes on ossifies. Permanent cartilage, on the contrary, retains its character to the last, never ossifying.

Cartilaginous Fishes, a general designation for those fishes whose skeleton consists of cartilage instead of bone, and which comprise the sharks and skates or rays.

Cartoon, in painting, a drawing intended to be used as a model for a large picture in fresco. In modern times the term is also applied to a pictorial sketch relating to some notable character or events of the day.

Cartoons have become a leading feature of American journalism and of political campaigns, and some "cartoonists" receive large salaries.

Cartouch, a tablet intended to receive an inscription which resembles a scroll of paper rolled up at the ends. It is also applied to the modillion that supports the corona of a cornice used in interior decoration.

In military language it is a canvas or leather cartridge-box; a case for holding musket-balls and powder; a wooden bomb; a ticket of leave, or dismissal, given to a soldier.

Cartridge, a case of paper, parchment, metal, or flannel suited to the bore of firearms, and holding the exact charge, including, in the case of small arms, both powder and bullet.

Cartwright, Edmund, an English inventor, born in Marnham, April 24, 1743. In 1785 he brought his invention, the first power-loom, into action. He died in Hastings, Oct. 30, 1823.

Cartwright, Peter, an American clergyman, born in Virginia, Sept. 1, 1785; ordained in Kentucky in 1806, and in 1823 removed to Illinois, where he labored for nearly a century. He also sat in the State Legislature there, and in 1846 was defeated by Abraham Lincoln in an election for Congressman. He died near Pleasant Plains, Ill., Sept. 25, 1872.

Cartwright, Sir Richard John, a Canadian statesman, born in Kingston, Ont., Dec. 4, 1835. He was Minister of Finance from 1873 until 1878. He is an able speaker and an authority on finance. In 1897 he was a member of a Canadian commercial commission to the United States.

Carupano, a growing port of the Venezuelan State of Bermudez, on the N. coast of the peninsula of Paria, with a lighthouse and good roadstead. Pop. 12,389.

Carus, Marcus Aurelius, a Roman emperor, born in 222, succeeded to the throne in 282 A. D., after the assassination of Probus. He was a good and able ruler and conquered the Sarmatians, wrested Mesopotamia, Seleucia, and Ctesiphon from the Persians, and was about to make an invasion beyond the Tigris when he was killed in 283.

Carver, John, a "Pilgrim Father," the first governor of the Plymouth colony, born in England about 1575. He joined the Leyden colony of English exiles about 1608, and assisted in securing a charter from the Virginia Company and in selecting and equipping the "Mayflower." He was elected governor after the "Mayflower" reached Provincetown, and established by a treaty with the Indians peaceful relations. He was re-elected in March, 1621, but died a few days afterward.

His chair and sword are still preserved as Pilgrim relics.

Cary, Alice, an American poetess, born near Cincinnati, O., April 26, 1820. In 1852 she, with her sister, Phœbe, removed to New York City, where they lived during the rest of their lives. She died in New York City, Feb. 21, 1871.

Cary, Annie Louise, an American singer; born in Wayne, Me., Oct. 22, 1842; studied in Milan, made her operatic début in Copenhagen in 1868, and returned in 1870 to the United States, where she remained until 1882, when she married Charles M. Raymond, and retired from the stage while her voice was still unimpaired.

Cary, Edward, an American journalist; born in Albany, N. Y., June 5, 1840. He has long been connected with the "New York Times."

Cary, George Lowell, an American theologian; born in Medway, Mass., May 10, 1830. He was graduated at Harvard College in 1852; and since 1862 has been Professor of New Testament Literature in Meadville Theological Seminary, of which he is also president.

Cary, Phœbe, an American poetess and prose-writer, sister of Alice; born in Cincinnati, O., Sept. 4, 1824. She died in Newport, R. I., July 31, 1871.

Cary, Samuel Fenton, an American politician; born in Cincinnati, O., Feb. 18, 1814; represented Ohio in Congress in 1867–1869; was the only Republican representative to vote against the impeachment of President Johnson; and was an unsuccessful candidate for vice-president in 1876, on the "Greenback" ticket, headed by Peter Cooper.

Caryatides, or **Caryates,** a term used to signify the figures which are sometimes introduced to support a cornice instead of columns.

Caryocar, large trees, natives of the hottest parts of South America, much esteemed for their timber. The separated portions of the fruit constitute the Souari or Suwarrow nuts of commerce, the kernels of which are delicious.

Caryophyllus, the Clove-tree, a native of the Moluccas. The cloves of commerce are the unexpanded flower-buds dried. They form a well-known spice.

Carysfort Reef, a coral reef near the S. extremity of Florida.

Casabianca, Louis, a French naval officer, born in Bastia about 1755, and in 1798 was captain of the flagship "L'Orient" in the expedition to Egypt. He was mortally wounded at the battle of the Nile, Aug. 1, 1798; the ship caught fire; his 10-year-old son would not leave him, and both were floating on the wreck of the ship's mast when the final explosion took place.

Casanare, a river of the Republic of Colombia, which flows through a region called by the same name, and after an easterly course of 180 miles empties into the Meta.

Casareep, or **Cassiripe,** a sauce or condiment made from the juice of the Bitter Cassava or Manioc root, which also furnishes tapioca.

Casas Grandes, an old Indian town of Mexico, in the State of Chihuahua, 125 miles S. W. of El Paso.

Casati, Gaetano, an Italian explorer, born in Monza, in 1838. He explored Bahr-el-Ghazel, and, after long captivity among African tribesmen, was rescued by Stanley. He died in Rome, Italy, March 7, 1902.

Casca, Publius Servilius, a Roman conspirator, assisting in the assassination of Julius Cæsar, 44 B. C.

Cascade Range, a chain of mountains in the States of Oregon and Washington. It takes its name from the cascades formed by the Columbia river breaking through the mountains.

Casco Bay, a bay on the S. W. coast of Maine; is about 20 miles wide and so deep as to constitute one of the best harbors of the world.

Case, in grammar, a modification or inflection of a noun, pronoun, or adjective, by which a different shade of meaning is communicated to the word.

Case, Augustus Ludlow, an American naval officer, born in Newburg, N. Y., Feb. 3, 1813; entered the navy as a midshipman in 1828, served in the Mexican war. He was a light-house inspector in 1867; chief of bureau of ordnance, 1869; and commander of the European squadron in 1873.

He was retired in 1875, and died in Washington, D. C., Feb. 17, 1893.

Case-hardening, the process of converting the surface of malleable-iron goods into steel, thereby making them harder, less liable to rust, and capable of taking on a better polish.

Casein, or **Caseine,** an albuminoid substance found in milk, soluble in alkali.

Casey, Silas, an American officer, born in East Greenwich, R. I., July 12, 1807; was graduated at the United States Military Academy in 1826; served in the Mexican and Civil Wars. Was given charge of organizing the volunteers near Washington; brevetted Major-General U. S. A., 1865; and retired in 1868. He died in Brooklyn, N. Y., Jan. 22, 1882.

Casey, Thomas Lincoln, an American military engineer, born in Madison Barracks, Sackett's Harbor, N. Y., May 10, 1831; the oldest son of Gen. Silas Casey. He graduated from West Point in 1852, and entered the Engineer Corps of the army. Was placed in charge of the construction of various National buildings; was president of the Board of Engineers for fortifications at New York. He died in Washington, D. C., March 25, 1896.

Casgrain, Abbe Henry Raymond, a Canadian historical writer; born in Riviere Quelle, Quebec, Dec. 16, 1831. Was ordained a priest; was professor at St. Anne's College till 1859, and afterward vicar at Quebec Cathedral.

Cashel, a town in Tipperary county, Ireland, about 49 miles N. E. of Cork; containing the most interesting ruins in Ireland. These consist of a cathedral, founded in 1169; a stone-roofed chapel, built in 1127; Hore Abbey, founded in 1260; the palace of the Munster Kings; and a round tower 90 feet in height and 56 feet in circumference.

Casiguran Bay, a considerable inlet on the E. coast of Luzon, Philippine Islands, reached through Casiguran Sound.

Casimir-Perier, Jean Paul Pierre, a President of the French Republic, born in Paris, Nov. 8, 1847; was chosen successor of President Carnot on the first ballot (June, 1894). He resigned the office of President, Jan. 16, 1895, and was succeeded by Felix Faure. He died March 11, 1907.

Caspian Gates, a name given to the Russian fortress Dariel, situated in a narrow defile of the Caucasus, on the Terek, 80 miles N. of Tiflis.

Caspian Sea, a great salt lake of Western Asia, wholly enclosed, having no outlet whatever to the ocean, and surrounded by Tartary, Persia, the Caucasian countries, and the Russian governments of Orenburg and Astrakhan. Its greatest length from N. to S. is 760 miles; average breadth, 200; area, about 120,000 square miles.

Cass, Lewis, an American statesman, diplomatist, and soldier, born in Exeter, N. H., Oct. 9, 1782; served in the War of 1812; was governor of Michigan Territory (1813–1831); Secretary of War (1831–1836); minister to France (1836–1842); United States Senator (1845–1848); Presidential candidate (1848); United States Senator (1849–1857); Secretary of State (1857–1860). He died in Detroit, Mich., June 17, 1866.

Cassation, Court of, a French institution which gives the national jurisdiction coherency and uniformity without endangering the independence of the courts.

Cassatt, Alexander Johnston, railroad president; b. Pittsburg, Dec. 8, 1839. He was educated at Heidelberg Univ. and the Rensselaer Polytechnic Institute; became a railroad rodman in 1861, and rose through successive positions to president of the Pennsylvania Railroad Co. in 1899. He died Dec. 28, 1906.

Cassatt, Mary, an American figure-painter, born in Pittsburg, Pa.; studied art in Europe; and lived some time in Spain and France. As an etcher she ranks among the best. Her studio is at Paris.

Cassava, a South American shrub, about 8 feet in height, with broad, shining, and somewhat hand-shaped leaves, and beautiful white and rose-colored flowers. From Cassava the tapioca of commerce is prepared.

Cassel, or **Kassel,** formerly the residence of the Elector of Hesse-Cassel, is now the chief town in the province of Hesse-Nassau, Prussia, on the Fulda, 91 miles N. N. E. of Frank-

fort-on-the-Main. There are many fine walks and public gardens in the vicnity; among the latter are the gardens of Wilhelmshohe, in which is situated the ex-elector's summer palace, the residence of the late Emperor Napoleon III., after his being taken prisoner at Sedan, from Sept. 5, 1870, to March 19, 1871. Pop. (1900), 105,055.

Cassia, a genus of plants. Between 200 and 300 species are known. They are trees, shrubs, or herbs. They are found in India, Africa and the warmer parts of this country. Several furnish Senna.

Cassianus, Joannes Eremita, or **Joannes Massiliensis,** an early monk and theologian, born about 360. He died about 448, and was afterward canonized.

Cassicus, an American genus of insessorial birds, the Cassicans. The crested oriole, a South American bird, constructs a pouch-shaped nest of the length of 30 inches.

Cassini, Count, a Russian diplomatist, born in St. Petersburg. He was the first Russian ambassador to the United States.

Cassiquiari, or **Cassiquiare,** a large river of South America, in Venezuela, which branches off from the Orinoco and joins the Rio Negro, a tributary of the Amazon.

Cassius, full name, **Caius Cassius Longinus,** one of the assassins of Julius Cæsar; killed himself 42 B. C.

Cassock, a close garment resembling a long frock coat, worn by clergymen under the surplice or gown. In the Church of Rome they vary in color with the dignity of the wearer; those of priests being black, bishops purple, cardinals scarlet, and Popes white.

Cassowary, a family of birds. The shortness of their wings totally unfits them for flying, and it would seem impossible for nature to have furnished muscular power sufficient to move wings large enough to sustain their great weight in the air. The wings of the ostrich are of some assistance to it in running, but those of the cassowary are too short even to be of service in this way. Its whole plumage is so poorly supplied with feathers as to resemble, at a little distance, a coat of coarse or hanging hair. The cassowaries have three toes, all provided with nails.

Cast, in the fine arts, an impression taken by means of wax or plaster of Paris from a statue, bust, bas-relief or any other model, animate or inanimate.

Castanet, a small, slightly concave, spoon-shaped instrument of ivory or hard wood, of which a pair are fastened to the thumb and beaten together with the middle finger.

Caste, an hereditary class of society in India, the members of which are theoretically equal in rank, and, as a rule, follow the same profession or occupation. Through the long ages during which Indian caste has existed, the original four castes have split into an immense multitude. Different castes refuse to eat together or intermarry.

Castellon, Francisco, a Nicaraguan revolutionist, born about 1815. He was the leader in a revolt at Leon in 1853, which was unsuccessful, and fled to Honduras, whence he returned in June of the next year. It was by his invitation that the filibustering expedition under William Walker went from the United States in 1854. He died Sept. 2, 1855.

Castile, Spain an ancient kingdom comprising Old Castile and New Castile, the former extending from the Bay of Biscay southward to New Castile, and now divided into 8 provinces; area 25,405 square miles; pop. 1,764,440. New Castile occupied the centre of the peninsula, and is now divided into 5 provinces; area, 28,010 square miles; pop. 1,853,314. The Kingdom of Castile was united to that of Léon in 1230.

Castilla, Ramon, a Peruvian statesman; born in Tarapaca, Aug. 30, 1796. Early in life he served in the Spanish army, but in 1821 he joined the insurrectionists in Peru and distinguished himself in the successful struggle of that country for independence. In 1845 he was elected President of Peru. On the expiration of his term he retired to private life; but as the new President proved tyrannical, Castilla led a revolt against him, drove him into exile, and in 1855 was

himself re-elected President. He served till 1862. He died in Tarapaca, May 30, 1867.

Castillon, a town in the French department of Gironde, on the right bank of the Dordogne, 33 miles E. of Bordeaux by rail. Beneath its walls, on June 13, 1453, the English met with a signal defeat, their leader, Earl Talbot of Shrewsbury, and his son, being slain. Part of the battle is described in the fourth act of Shakespeare's "King Henry VI.," Part I.

Casting, the running of melted metal into a mold prepared for the purpose, so as to produce an article of a certain shape.

Cast-iron, the name given to the iron obtained from the blast-furnace by running the fused metal into molds prepared for the purpose.

Castle, a building constructed for the purpose of repelling attack. The castella left by the Romans were constructed on the general model of their stationary encampments, and though they may have suggested the castles of the Middle Ages, they differed from them in being designed for military purposes only, and not as places of permanent residence.

Castlebar, the capital town of County Mayo, Ireland. It is on the Castlebar river, 10 miles N. E. of Westport. In 1641 occurred here the massacre of the English Parliamentary army in the Irish rebellion; in 1789 Castlebar was held for a fortnight by the French general, Humbert; and in 1846–1847 it suffered greatly from famine.

Castle Garden, the former immigrant depot in New York, at the point of Manhattan Island, in Battery Park. In the early days of the city the place was a small, fortified island a few feet from the main-land; later it became a public hall for assemblies and concerts. Here Jenny Lind made her American début. Many years ago the island was incorporated with the general area of the Battery by filling the intervening space with earth and rock; new buildings were erected, and the place was devoted to the purpose of landing steerage immigrants. In 1890 it ceased to be used as an immigrant

A FEUDAL CASTLE AT ROUEN, FRANCE.

depot, and was turned over to the Park Commissioners of the city of New York, and is now an aquarium.

Castletown, a seaport and former capital of the Isle of Man, on Castletown Bay, 11 miles S. W. of Douglas. Castle Rushen, now a prison, occupies the site of a Danish fortress of the 10th century, which was almost wholly demolished by Robert Bruce in 1313. The grounds of Rushen Abbey (11th century), near the station, are now market gardens. Near by is the small building where the House of Keys assembled for about 170 years.

Castor and Pollux, two demigods known by the ancients under the joint name of Dioscuri, that is, sons of Zeus or Jupiter. Mythology makes Jupiter reward their affection by translating the two brothers into constellations, under the name of Gemini —stars which never appear together, but when one rises the other sets, and so on alternately.

Castor Oil, a fixed oil obtained from the seeds of the castor oil plant. Given in doses or one or two teaspoonfuls, with a little peppermint water, it forms a gentle laxative for habits easily acted on by medicine; while a dose of a tablespoonful, or a little more, will almost always succeed.

Castro, Inez de, a lady of noble birth, secretly married to Pedro, son of Alphonso IV., King of Portugal, after the death of his wife Constantia (1345). The old King Alphonso, fearful that this marriage would injure the interests of his grandson Ferdinand, resolved to put Inez to death. Three noblemen, Diego Lopez Pacheco, Pedro Coelho, and Alvarez Gonsalvez, were his counsellors, and carried it out themselves by stabbing Inez within the convent where she lived. Two years after King Alphonso died, and Pedro, inducing the King of Castile to give up to him two of the murderers, who had taken refuge there (the third, Diego Lopez, managed to escape), put them to death with cruel tortures. The king then made public declaration of the marriage that had taken place between him and the deceased Inez; and had her corpse disinterred and placed on a throne, adorned with the diadem and royal robes, to receive the homage of the nobility. The body was then buried with honors. The story of Inez is one of the finest episodes in Camoens's "Lusiad."

Castro, Cipriano, President of Venezuela, b. 1858 near Capacho, of peasant parents. He became a coffee grower and politician, and in 1899 took Caracas with a few troops and was elected President. He embroiled his country with almost every civilized Power; was especially arrogant towards the United States; and in 1908-1909 fled the country and was deposed.

Castro, Jose Maria, a Costa Rican statesman, born in San Jose, Sept. 1, 1818; educated at the University of Leon, Nicaragua, and held positions under the government of Costa Rica. In 1846 he was Vice-President; in 1847 elected President. After Costa Rica withdrew from the Central American States, he resigned the presidency, but held diplomatic positions. From 1866 to the rise of the Jimenez government (1868), he was again President.

Casuistry, that branch of ethical science which professes to deal with cases of conscience. It lays down rules or canons directing us how to act in all matters of moral doubt.

Caswell, Richard, an American lawyer, born in Maryland, Aug. 3, 1729; removed to North Carolina in 1746; was president of the Provincial Congress which framed the State Constitution (1776), and first governor of the State, three times re-elected; was also a delegate to the convention which framed the Federal Constitution in 1787. He died in Fayetteville, N. C., Nov. 20, 1789.

Cat. The cat is originally from the European forests. In its wild state it differs from the domestic animal in having a shorter tail, a flatter and larger head, and stronger limbs. At what period cats became inmates of human habitations, it is scarcely possible to determine, but there is good reason to believe that they were at first domesticated in Egypt. The varieties of this animal in a domestic state are very numerous. Of all the varieties the Persian, the Angora, and the new, tall and gray Malta variety are the most remarkable.

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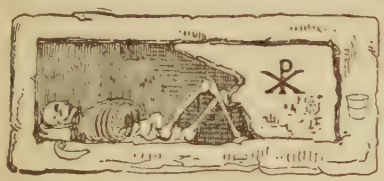
DOMESTIC CATS AND KITTENS

Catacombs, caverns, grottoes, subterraneous caves, destined for the sepulture of the dead. The name of catacombs, according to Gregory, was at first applied to designate exclusively the cave in which the bodies of St. Peter and St. Paul were buried, and



A CATACOMB GRAVE.

it was only at a later period that it came to be given to all the subterraneous passages which were used as public burying-places. It is now regarded as certain that in times of persecution the early Christians frequently took refuge in the catacombs; but it is not less certain that the catacombs served also as places of burial to the early Christians, and that in spite of the contrary opinion which prevailed for two centuries, the catacombs were not for the most part abandoned quarries, but were excavated by the Christians themselves.

The catacombs of Paris, situated on the left bank of the Seine river, are almost equally celebrated. By the light of wax tapers, a person may descend about 70 feet to a world of silence, over which the Parisian police keeps watch as strictly as over the world of noise and confusion above. He will then enter a gallery where only two can go abreast. A black streak on the stones of the walls points out the way, which, from the great number of by-passages, it would be difficult for the visitor to retrace without this aid or without guides.

Catafalque, a temporary and ornamental structure, placed over the coffin of a distinguished person or over a grave.

Catalan, a blast furnace for reducing ores, extensively used in the N. of Spain, particularly in the province of Catalonia.

Catalani, Angelica, an Italian singer, born in Sinigaglia, near Ancona, in October, 1779; in her seventh year she displayed such wonderful vocal powers that strangers flocked from all quarters to hear her. She made her début at Venice in 1797 and experienced a succession of triumphs in every country in Europe for upwards of 30 years. The Italian Opera in Paris was twice under her direction; but her husband's interference and extravagance brought her into much trouble. She died in Paris, June 13, 1849.

Catalepsy, a form of mental disorder, akin to hysteria, which is characterized by the person affected falling down suddenly in a state of real or apparent unconsciousness, and, save for some occasional muscular twitchings of the face and body, remaining rigid and statue-like for a period of time which varies from one minute to some hours or even days, and then all at once recovering consciousness as if aroused from sleep.

Catalonia, an old province of Spain, bounded N. by France, E. and S. E. by the Mediterranean, S. by Valencia, and W. by Arragon. The country is mountainous, but intersected with fertile valleys, while the mountains themselves are covered with valuable woods and fruit-trees. Wheat, wine, oil, flax, hemp, vegetables, and almost every kind of fruit are abundant. There are mines of lead, iron, alum, etc. Catalonia, though less fertile than most of Spain, stands preeminent for the industry of its inhabitants, who speak the Catalan dialect; area, 12,483 square miles. Population, 1,942,245.

Catalpa, (from the native Indian name in Carolina, where it was discovered by Catesby in 1726), a genus comprising four or five species of trees, natives of North America, the West Indies, Japan, and China.

Catamaran, a kind of boat used by the Hindoos of Madras, the island of Ceylon, and the parts adjacent. It is formed of three logs of timber, secured together by means of three spreaders and cross lashings through small holes.

Catamarca, a W. province of the Argentine Republic, sinking S. E. from the Andes to the Salt Marshes, which separate it from Cordoba. Area, 42,018 square miles; population,

130,000. Catamarca, the capital, lies 82 miles N. E. of Rioja.

Catamount, the North American tiger.

Catanduanes, a small island in the Phi'ippine archipelago, E. of Luzon, about 90 miles long and 50 miles wide. It is mountainous and said to nave rich gold deposits. Pop. (1903) 39,288, all civilized.

Catania, a city on the E. coast of Sicily, in the province of Catania, at the foot of Mount Etna. It has been repeatedly visited by tremendous earthquakes, one of the worst of which was in 1093, when 18,000 people were destroyed. Population, 129,651.

Catapult, a machine of the ancients for projecting missiles, chiefly arrows. They may be described as a kind of gigantic cross-bows.

Cataract, in medicine, an opacity of the crystalline lens of the eye, or of its capsule, or both. In cataract the lens becomes opaque, loses its transparency, and is no longer capable of transmitting the light. The causes of cataract are numerous. The treatment of cataract is by a surgical operation on the eye, and different operations have been tried and recommended. They all consist in removing the diseased lens from its situation opposite the transparent cornea.

Cataract, in geography, a waterfall, called in America briefly "falls." Many cataracts are remarkable for their sublimity, the grandest being the Falls of Niagara, on the Niagara river, between Lakes Erie and Ontario. The river, more than a mile above the falls, is divided by Grand and Navy islands, and has a gradual descent of 57 feet from this place. The banks preserve the level of the country, and in some parts rise 100 feet from the water. At the falls the river is ¾ of a mile broad, and the precipice which breaks its course curves irregularly so as to form nearly a semicircle on the Canadian side, but is straighter on the American side. An island, called Goat island, divides the cataract into two principal portions — the American fall on the E. and the Horseshoe on the W., or Canada side. The American fall descends almost perpendicularly from a height of 162 feet, and is about 1,000 feet in width. The Horseshoe fall is 4 feet less in height, but is wider and surpasses the other much in grandeur. The water rushes over the precipice with such force that it forms a curled sheet, which strikes the river below 50 feet from the base of the precipice, and visitors can pass behind the falling sheet of water.

The Montmorency river, which joins the St. Lawrence a few miles below Quebec, forms a magnificent cataract, 250 feet in height. The Missouri, in the upper part of its course, descends 357 feet in 16½ miles. There are four cataracts, one of 87, one of 19, one of 47, and one of 26 feet in height. The Yosemite river, in California, forms a series of magnificent falls, with a total descent of 2,600 feet. The first of them is a plunge of 1,500 feet, and is followed, after a series of beautiful cascades, by a final plunge of about 400 feet. Fully 200 miles from the mouth of the Hamilton river in Labrador there is a magnificent series of cataracts known as the Grand Falls, the largest cataract having a height of over 300 feet. In the republic of Colombia, South America, a magnificent cataract, called that of Tequendama, is formed by the Bogota river. The river precipitates itself through a narrow chasm, about 36 feet broad, to the depth of over 600 feet. On the Potaro river in British Guiana, is a grand fall known as the Kaieteur Fall, 740 feet high, and about 370 broad, a second fall of 88 feet occurring immediately below the principal one.

The most remarkable waterfall of Africa is a cataract on the Zambesi called Victoria Falls. The stream, about 1,860 yards broad, flowing over a bed of basaltic rock, is suddenly precipitated into a tremendous fissure to the depth of about 370 feet. The breadth of this fissure or crack is only from 80 to 90 yards, and the pent-up waters are then hurried through a prolongation of the chasm to the left with furious violence. The so-called Cataracts of the Nile are not, properly speaking, cataracts. A more correct designation for them would be "rapids." The Stanley Falls on the Kongo comprise seven cataracts. On the Tugela river, in Natal, there are the Tugela Falls. On the Umgeni river, in the same country, are the falls of

the Great Umgeni (364 feet) and the Kar Kloof Falls (350). There seem to be no waterfalls of more note in Asia than those of the Cavery river of India.

One of the grandest falls in Europe is that of the Ruikanfoss ("smoking fall"), on the Maan river, in Norway. The height of the cataract is 805 feet. In Sweden, on the Gotha river, a few miles below its outlet from Lake Wener, are the celebrated falls of Trollhatta, which have a height of over 100 feet. The cascade of Gavarnie, in the Pyrenees, is reputed the loftiest in Europe, being over 1,300 feet in height. Its volume of water, however, is so small that it is converted into spray before reaching the bottom of the fall. Another water fall in the Pyrenees is that of Seculejo, in the neighborhood of Bagneres-de-Luchon. It ascends from the Lac d'Espingo, into the Lac de Seculejo, or d'Oo, a singularly romantic mountain reservoir, from a height of 820 feet, and is the most copious of the Pyrenean waterfalls. The Swiss Alps likewise contain some falls of great sublimity.

Catarrh, a running or discharge which takes place from the various outlets of the body.

Cat Bird, a species of American thrush, which during the summer is found throughout the Middle and New England States, frequenting thickets and shrubberies. Its note is strikingly similar to the plaint of a kitten in distress. The plumage is a deep slate-color above and lighter below, and it is about 9 inches in length. During the winter it inhabits the extreme S. of the United States. The cat bird frequently attacks the common black snake, which, in the absence of the bird, rifles its nest.

Catechism, any compendious system of teaching drawn up in the form of question and answer. The first Christian catechisms are said to have been composed in the 8th or 9th century. Luther published a short catechism in 1520, and his larger and smaller ones in 1529. The Geneva Catechism was sent forth in 1536. The Church of England Catechism was first published in 1549 or 1551, but in a shorter form than now. The catechism of the "orthodox" Greek Church was published in 1542. In 1566 the Council of Trent produced a catechism; the Rakovian Catechism, which is Socinian, was put forth in 1574, and the shorter and larger catechisms of the Westminster Assembly of Divines appeared, the former in 1647, and the latter in 1648. Catechisms of other sects have been published.

Catechu, a gum, is soluble in water; on exposure to the air the solution turns red. Catechu has been used to prevent the formation of boiler incrustations.

Catechumen, he who learns the elements of any science; one who is undergoing a course of religious instruction with a view to his admission into the Church.

Caterpillar, the larvæ of butterflies, moths, and hawk-moths.

Cat-fish, the sea-wolf, a native of the West Indian seas, so called from its round head and large, glaring eyes; also a fresh-water fish of different species, the common cat-fish, called also horned pout, and bull-head.

Cat-gut, the name given to the material of which the strings of many musical instruments are formed. It is made from the intestines of the sheep, and sometimes from those of the horse, but never from those of the cat.

Cathari, a name akin to "Puritans," applied at different times to various sects of Christians. It became a common appellation of several sects which first appeared in the 11th century in Lombardy and other countries, and which were violently persecuted for their tenets and usages. They had many other local names. The Cathari proper held a community of goods, abstained from war, marriage, and the killing of animals, and rejected water baptism.

Catharine I., Empress of Russia. The early history of this remarkable woman is uncertain. According to some accounts she was the daughter of a Swedish officer named Rabe, who died shortly after she was born; according to others her father was a Catholic peasant in Lithuania, by name Samuel. It is said that she was born in 1686, named Martha, and placed by her parents in the service of a Lutheran clergyman. She re-

moved to Marienburg, and entered the service of a clergyman named Gluck, who caused her to be instructed in the Lutheran religion. Here she was married to a Swedish dragoon. But a few days after he was obliged to repair to the field, and the Russians, within a short period, took Marienburg in 1702. Martha fell into the hands of General Tcheremetieff, who relinquished her to Prince Menzikoff. While in his possession she was seen by Peter the Great, who made her his mistress. She became a proselyte to the Greek Church, and assumed the name of Catharine Alexiewna. In 1712 the emperor publicly acknowledged Catharine as his wife. Upon the death of Peter she was proclaimed empress and autocrat of all the Russias. Catharine died suddenly on May 17, 1727, in the 42d year of her age.

Catharine II., Empress of Russia; born in Stettin, May 2, 1729, where her father, Christian Augustus, Prince of Anhalt-Zerbst, and Prussian field-marshal, was governor. The empress Elizabeth of Russia, daughter of Peter the Great, and Catharine I., selected her for wife of Peter, her nephew and heir, and the marriage took place, September 1, 1745. It was not a happy one. Among the friends of her husband Count Soltikoff was distinguished for talent and the graces of his person. He attracted the attention of Catharine, and an intimate connection between them was the consequence. When Soltikoff grew indifferent a young Pole, Stanislaus Augustus Poniatowski, celebrated both for his good and ill fortune, gained the affections of the grand princess. Their intimacy was known to the empress, but did not appear to displease her; and it was at her recommendation that Augustus III. appointed Poniatowski his ambassador at the court of St. Petersburg. This connection created alarm at Paris. In January, 1762, Elizabeth died, and Peter III. ascended the throne. The emperor now became still more alienated from his wife. Peter lived in the greatest dissipation, and on such intimate terms with a lady of the court, named Elizabeth Woronzoff, that it was generally thought that he would repudiate Catharine and marry his mistress. Peter was imprisoned and murdered by the Orloffs, and Catharine became empress. A fit of apoplexy ended her life on Nov. 17, 1796. Apart from her debauchery she was an enlightened and progressive ruler. and deserves to be remembered gratefully by Americans for having refused to sell her subjects to George III. to fight in the Revolution.

Catharine de' Medici, wife of Henry II., King of France; born in Florence in 1519, the only daughter of Lorenzo de' Medici, Duke of Urbino, and the niece of Pope Clement VII. Francis I. consented that his son Henry should marry her only because he did not believe she ever would ascend the throne, and because he was in great want of money, with which Lorenzo could furnish him. The marriage was celebrated at Marseilles in 1533. The massacre of St. Bartholomew was her work. She had two daughters, Elizabeth, married to Philip II. of Spain in 1559, and Margaret of Valois, married to Henry of Navarre, afterward Henry IV. She died in 1589.

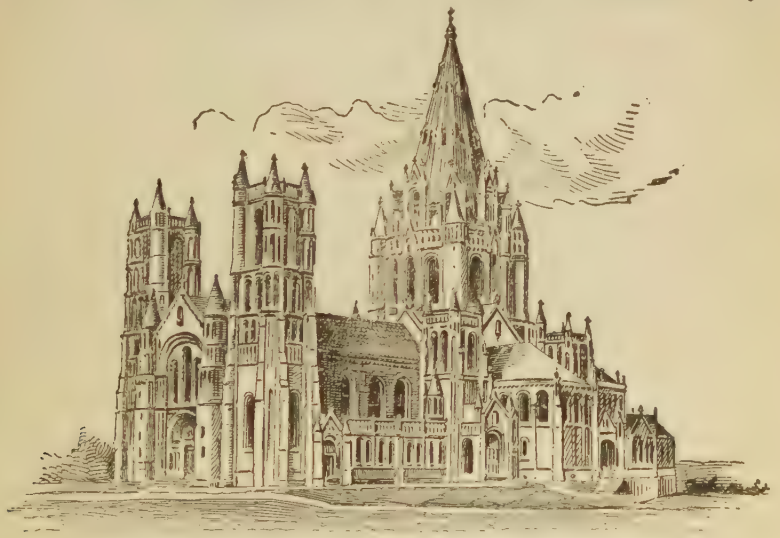
Catharine of Arragon, Queen of England, the youngest daughter of Ferdinand of Arragon and Isabella of Castile; born in 1483 or 1485. In 1501 she was married to Arthur, Prince of Wales. Her husband dying about five months after, the king caused her to be contracted to his remaining son, Henry, and a dispensation was procured from the Pope for that purpose. In his 15th year the prince made a public protest against the marriage; but yielding to the representations of his council, he consented to ratify the contract, and on his accession to the throne in 1509 was crowned with her. The want of male issue proved a source of disquietude to him, and scruples, real or pretended, at length arose in his mind concerning the legality of their union, which were enforced by a growing passion for Anne Boleyn, one of the queen's maids of honor. He made application to Rome for a divorce from Catharine. An encouraging answer was returned, and a dispensation promised. Overawed, however, by the power of the Emperor Charles V., Catharine's nephew, the conduct of the pontiff became embarrassed and hesitating. Catharine could not be induced to consent to an act which

would render her daughter illegitimate. Being cited before the papal legates, Cardinals Wolsey and Campeggio, she declared that she would not submit her cause to their judgment, but appealed to the court of Rome. The subterfuges of the Pope induced the king to decide the affair for himself; and the resentment expressed on this occasion by the court of Rome provoked him to throw off his submission to it, and declare himself head of the English Church — an act of royal caprice more important than most in history. In 1532 he married Anne Boleyn; upon which Catharine retired to Ampthill. Cranmer, now raised to the primacy, pronounced the sentence of divorce. She died in January, 1536. Shortly before her death she wrote a letter to the king, recommending their daughter (afterward Queen Mary) to his protection, praying for the salvation of his soul, and assuring him of her forgiveness and unabated affection.

Catharine of Braganza, wife of Charles II., King of England, and daughter of John IV., King of Portugal, was born in 1638. In 1662 she married Charles II., but her husband's infidelities and neglect, and her childlessness were a source of mortification to her. In 1693 she returned to Portugal, where, in 1704, she was made regent, and in the conduct of affairs during the war with Spain showed marked ability. She died in 1705.

Cathartic, having the property or power of cleasing the bowels by promoting the evacuations of excrements, etc., purgative.

Cathedral. The principal church of a diocese, and the Cathedral city is the seat of the bishop of the diocese, and his throne is placed in the Cathedral church, which is the parish church of the whole diocese. The distinction between Cathedral and collegiate churches consists principally in the see of the bishop being at the former. The governing body of a Cathedral is called the dean and chapter. St. Peter's, at Rome, is unequaled in magnitude and splendor by any other Christian fane in the world. St. Peter's was begun in 1503, and was consecrated in 1626. Milan Cathedral was commenced in 1387, but is still



CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK CITY.

unfinished. The Duomo, Florence, was begun in 1298, and was finished in 1444. The Cathedral at Cologne was begun in the middle of the 13th century, and only partly finished in 1509, after which work was not resumed on it till 1830. In 1863 the interior was thrown open to the public. In 1880 it was finished. The Cathedral at Strasburg was completed in 1601, and is one of the grandest Gothic structures in Europe. Notre Dame, Paris, was begun about 1163. St. Paul's, London (the present edifice, the first having been destroyed in the great fire of 1666), was begun in 1675, and was finished in 1710. It is built in the form of a Latin cross. The Cathedral of Mexico was begun in 1573, and was finished in 1667. The Cathedral of St. John the Divine (P. E.), in New York, will, when completed, be the most splendid structure of the kind on this continent.

Cathedral Peak, a peak of the Sierra Nevada Range, situated in Mariposa county, Cal. Height, 11,000 feet.

Catherine Harbor, a Russian port in the far N. on the Murman coast of the Kola peninsula. It was formally opened in 1900, the city having been built by imperial command.

Catheter, a term applied in surgery to a tube, usually of silver or india-rubber, which is introduced into the bladder through the urethra, for the purpose of drawing off the urine when it cannot be discharged in the natural way.

Catholic Benevolent Union, an organization of Roman Catholics in the United States, founded in 1881 as a fraternal and protective order.

Catholic Church, the universal Church, the whole body of true believers in Christ; but the term is often used as equivalent to the Roman or Papal Church.

Catholic Epistles, the epistles in the New Testament addressed not to individual men or to individual churches, but to the general body of Christians. They are James, I and II Peter, I John and Jude.

Catholic Knights of America, an organization of Roman Catholics in the United States, founded in 1887 as a fraternal and protective order.

Catholic University of America, an institution in Washington, D. C., founded in 1889, under the auspices of the Roman Catholic Church, for postgraduate study exclusively.

Catiline (Lucius Sergius Catilina), a Roman conspirator; born about 108 B. C. Disappointed in his ambition he plotted a massacre of his political antagonists, and the destruction of the Roman Republic. Cicero exposed the conspiracy, and executed the leading conspirators, except Catiline, who fell in battle, January 5, 62 B. C., together with his whole army.

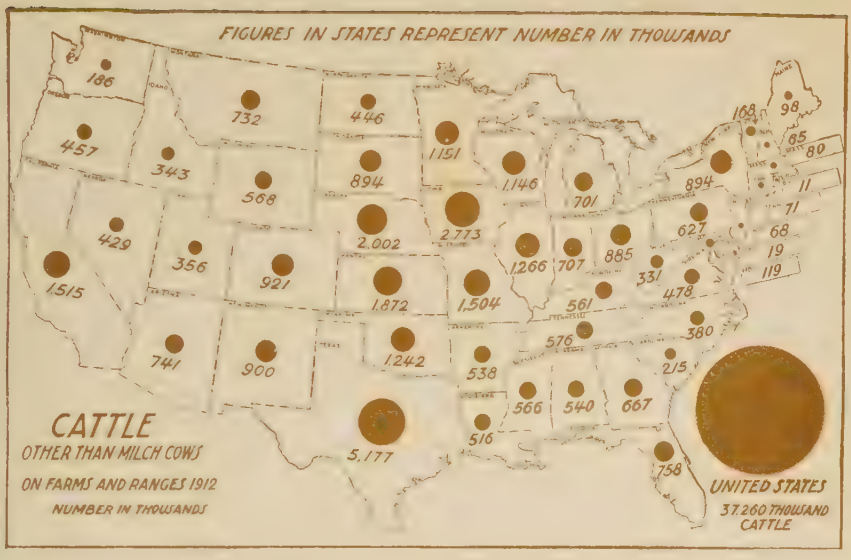
Cat Island, or **Guanahani,** an island of the Bahama group for centuries supposed to be identical with the San Salvador of Columbus, a surmise now disproved. Length, 36 miles; breadth, 3 to 7 miles; population, 2,378.

Catlin, George, an American author and painter, born in Wilkesbarre, Pa., June 26, 1796. From 1832 till 1839 he traveled and lived among the Indians of America, of whom he painted hundreds of portraits. He died in Jersey City, N. J., Dec. 23, 1872.

Cato, Marcus Porcius, a great Roman statesman, called (to distinguish him from the censor, his great grandfather) Cato of Utica, the place of his death; born 95 B. C. He opposed Cæsar, and upon the triumph of the latter, he killed himself at Utica, Africa, 46 B. C.

Cato, Marcus Porcius, the Censor, surnamed Priscus; born in Tusculum, 234 B. C. He served his first campaign, at the age of 17, under Fabius Maximus, when he beseiged Capua. Five years after he fought under the same commander at the siege of Tarentum. After the capture of this city he became acquainted with the Pythagorean Nearchus, who initiated him into the sublime doctrines of his philosophy, with which, in practice, he was already conversant. After the war was ended Cato returned to his farm. Cato was poor and unknown; but his eloquence and the integrity and strength of his character, soon drew the public attention to him, and he was chosen to the highest offices. He died in 149 B. C.

Catorce, a mining town of San Luis Potosi, Mexico, which received its


FIGURES IN STATES REPRESENT NUMBER IN THOUSANDS
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732
446
1151
168
98
457
343
894
1146
701
894
65
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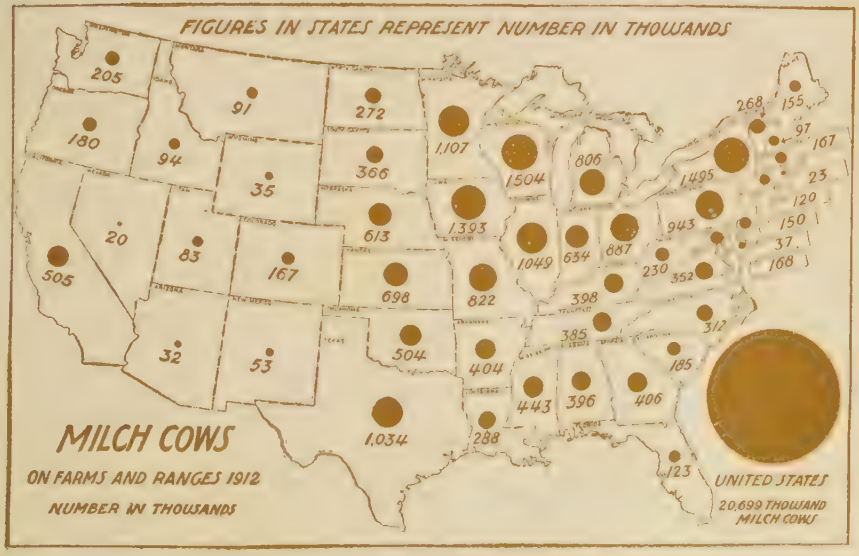
568
11
429
2.002
2.773
627
71
356
1266
707
885
68
1515
921
1.872
1.504
331
19
561
478
119
741
900
1242
576
380
538
215
566
540
667
516
5.177
758
CATTLE
OTHER THAN MILCH COWS
ON FARMS AND RANGES 1912
NUMBER IN THOUSANDS
UNITED STATES
37.260 THOUSAND
CATTLE


FIGURES IN STATES REPRESENT NUMBER IN THOUSANDS
205
91
272
1.107
268
155
180
94
366
1504
806
97
167
35
1495
23
613
1393
943
120
20
83
1049
634
887
150
505
167
230
352
37
698
822
168
398
312
32
53
504
404
385
185
443
396
406
1,034
288
123
MILCH COWS
ON FARMS AND RANGES 1912
NUMBER IN THOUSANDS
UNITED STATES
20.699 THOUSAND
MILCH COWS

ABERDEEN-ANGUS (Bull)

TEXAS STEER

SHORTHORN (Bull)

HOLSTEIN (Bull)

DUTCH BELTED (Bull)

HOLSTEIN (Cow)

DUTCH BELTED (Cow)

AYRSHIRE (Cow)

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GUERNSEY (Cow)
BRITTANY (Bull)
RED-POLLED (Cow)
BROWN SWISS (Cow)
JERSEY (Cow)
WEST HIGHLAND (Cow)
JERSEY (Bull)
AYRSHIRE (Calf)
LONG HORN (Bull)

name, signifying 14, from a gang of robbers, formerly a constant menace to its inhabitants. When the French invaded Mexico, a mint was started here, and worked until 1867. The amount coined was about $52,000,000. The population is variable, ranging from 8,000 to 15,000, according to the state of mining.

Catskill Mountains, a chain of the Appalachian system, beginning in Greene county, N. Y., on the W. side of the Hudson river. The scenery of these mountains is remarkably picturesque and beautiful, while from the higher points may be seen extensive and interesting views, taking in a radius from the Green Mountains of Vermont to the West Point Highlands.

Cattegat, or **Kattegat,** the bay or arm of the sea between the E. coast of Jutland and the W. coast of Sweden, to the N. of the Danish islands. It is connected with the Baltic Sea by the Great and Little Belt, and by the Sound, and the Skager Rack connects it with the North Sea. The length of the Cattegat is about 150 miles, and its greatest breadth 85 miles. Its greatest depth is 36 fathoms.

Cattell, James McKeen, an American psychologist, born in Easton, Pa., May 25, 1860, graduated at Lafayette College and studied at Leipsic, Paris, Geneva, and Gottingen, and became Professor of Experimental Psychology in Columbia University, 1891.

Cattle, a collective term, denoting all animals of the bovine or ox kind.

Cattle-plague. The name is given in the United States specifically to the disease known as "Texas fever." Although this pest has from time to time broken out there has never been any general epidemic. The appellation "cattle plague" is also loosely given to another disease among cattle which is known as the "lumpy-jaw," a most virulent and incurable affection. Experiments have been time and again ineffectually tried to find a cure for this disease.

Catty, in China and the Malayan Archipelago, a weight of 1 1-3 pounds.

Catubig, a small town in the island of Samar, Philippine Islands. The place is garrisoned by United States troops, who, in June, 1900, withstood an attack by 600 insurgents. Pop. (1903) 9,563.

Catullus, Valerius (whose prænomen is stated by some to be Caius, by others Quintus), a famous Roman poet; born 86 B. C. The common opinion is that he died 57 B. C., in the 30th year of his age, but this is no doubt erroneous, as there are allusions in his own works which prove him to have been alive in the consulship of Vatinius as late as 47 B. C.

Catulus, Quintus Lutatius, a Roman general, historian, and poet, born about 152 B. C.; died 8. B. C.

Cauca, a river of Colombia, in South America, which, after a N. course of 600 miles, falls into the Magdalena. Its valley is one of the richest and most populous districts of the continent, and it gives name to the largest of the Colombian States; area, 257,462 square miles; population, (est.), 700,000. It possesses the most productive platinum mine in America. Capital, Popayan.

Caucasia, a province of the Russian Empire, between the Black and Caspian Seas, and extending from the frontier of Persia on the S. to the Kuma-Manych depression on the N. The Caucasus Mountains divide the territory into Cis-caucasia and Trans-caucasia. The total area of Caucasia, the two parts being nearly equal, is 180,843 square miles, and the population, in 1897, Trans-caucasia being the most thickly settled, 9,248,695.

Caucasian Race, the white man, one of the three more remarkable varieties of the species Man, the two others being the Yellow, or Mongolian, and the Black, or Ethiopian. The Caucasian Race occupies all Europe and Western Asia as far as the Ganges, likewise Northern Africa and the greater part of America.

Caucasus, a chain of mountains between Europe and Asia, extending from S. E. to N. W., and occupying the isthmus between the Black and Caspian seas. The length is computed at 700 miles, the breadth is various; from Mosdok to Tiflis it may be estimated at 184 miles.

Caucus, in the political momenclature of the United States, a gathering preliminary to a public meeting of

citizens for election or for other purposes, generally political.

Caudex, in botany, the stem of a tree, more especially the scaly trunk of palms and tree-ferns.

Caudine Forks, a pass of Southern Italy, in the form of two lofty fork-shaped defiles, in the Apennines (now called the valley of Arpaia), into which a Roman army was enticed by the Samnites, 321 B. C., and being hemmed in was forced to surrender.

Caul, a popular name for a membrane investing the viscera, such as the peritoneum or part of it, or the pericardium; also a portion of the amnion or membrane enveloping the fetus, sometimes encompassing the head of a child when born.

Cauliflower, an esculent vegetable for which a very rich, light, warm soil is required. The Cauliflower is light, easily digested, and nutritious.

Caulking, of a ship, driving a quantity of oakum into the seams of the planks in the ships' decks or sides in order to prevent the entrance of water. After the oakum is driven very hard into these seams it is covered with hot melted pitch to keep the water from rotting it.

Caura, a river of Venezuela, rises among the sierras of the frontier, and flows N. N. W. to the Orinoco. On both sides stretches the territory of Caura (22,485 square miles), with immense forests of tonka beans.

Caus, Caulx, or **Cauls, Salomon de,** a French engineer, born in Dieppe in 1576. At Frankfort, in 1615, appeared his "Causes of Kinetic Energy," which contains a description of a machine for forcing water to a high level by steam, being the forerunner of the modern steam engine. He died in Paris, June 6, 1626.

Cause, that which produces an effect. In law, suit or action.

Caustic, a name given to substances which have the property of burning, corroding, or disintegrating animal matter; or of combining with the principles of organized substances and destroying their texture.

Cautin, a river in Chile; flows W. through a province named after it, and empties into the Pacific Ocean. Its length is about 200 miles. The province of Cautin has an area of 3,127 square miles; pop. 78,221; capital, Temuco; pop. 7,078.

Cautionary Towns, four towns in Holland (the Briel, Flushing, Rammekins, and Walcheren), so named because they were given to Queen Elizabeth in 1585 as security for their repaying her for assistance in their struggle with Spain. They were restored to Holland by James I.

Cavaignac, Jacques Marie Eugene Godefroy, a French politician, son of Louis Eugene Cavaignac, born May 22, 1853. In August, 1898, he added to the excitement over the Dreyfus prosecution by forcing Lieutenant-Colonel Henry to confess to a forgery of certain letters bearing on the case, that officer committing suicide shortly after. C. died Sept. 25, 1905.

Cavaignac, Louis Eugene, a French general who became famous in connection with the events of 1848; born in Paris, Oct. 15, 1802. Cavaignac was in Africa when the revolution of February, 1848, took place. He was offered the portfolio of the minister of war, and accepted it. The measures which he adopted to guard against the crisis which was evidently approaching were prompt and decisive. In a few days an army of nearly 30,000 men was assembled in and around Paris. On June 23 the terrible Communist insurrection burst forth, and for three days Paris presented the most dreadful scene of tumult and bloodshed which had been witnessed there since the massacre of St. Bartholomew. About 15,000 persons perished, and property was destroyed to the value of upward of $1,000,000. By the energy of General Cavaignac, aided by the loyalty of the army and the national guard, the insurrection was suppressed on June 26. On that day the National Assembly delegated the entire executive power to Cavaignac as dictator, who resigned it again into its hands on the 29th, and received it anew on the same day. He was defeated in the elections for the presidency in the month of December following, and Louis Napoleon was preferred to the office. On Dec. 20 he resigned his dictatorship. The last years of his life were spent at his country-seat, where he expired suddenly of heart disease on Oct. 28, 1857.

Cavaille-Coll, Aristide, a French organ builder, born in Montpelier, Feb. 2, 1811. He invented the pressure method for sounding tones of different depths and heights. He died in Paris, Oct. 13, 1899.

Cavalier, a horse-soldier; an armed horseman; a knight; the name given to the supporters of King Charles I., during the Great Civil War in England.

Cavalier, Jean, a leader of the Camisards, or Protestants of Cevennes, when forced into rebellion against Louis XIV., by the persecutions of the Catholics, born in Cevennes, 1679. He defeated the best generals that came against him, and compelled Marshal de Villars to make a treaty with him. He died in 1740.

Cavalotti, Felice, an Italian statesman, born in Milan, Nov. 6, 1842. He fought under Garibaldi and gained celebrity; was a political journalist. He fought 32 duels, in the last of which he was killed in Rome, March 6, 1898.

Cavalry, one of the three great classes of troops. The use of cavalry is probably nearly as ancient as war itself; but some nations used chariots in war before they became accustomed to fight on horseback. The Egyptians are said to have had cavalry before the time of Moses. The Israelites often had to encounter cavalry, but had none themselves till the time of Solomon. Cavalry are usually armed with straight swords or sabers, pistols, and carbines. In the United States army a cavalry regiment consists of six squadrons of two troops or companies, containing 63 men each.

Cave, or **Cavern,** an opening produced by nature in the solid crust of the earth. Caves are principally met with in limestone rocks, in gypsum, sometimes in sandstone, and in volcanic rocks (basalt, lava, tufa, etc.).

The most celebrated caverns in the United States are Madison's Cave, in Rockingham Co., Va.; Weyer's Cave, in the same county; Luray Cave, in Page Co., Va.; and the Mammoth Cave, in Edmondson Co., Ky., which incloses an extent of about 40 miles of subterraneous windings. One of its chambers, called the Temple, is said to cover a space of nearly 5 acres, and to be surmounted by a dome of solid rock 120 feet in height. The Cumberland mountains, in Tennessee, contain some curious caverns, in one of which, at a depth of 400 feet, a stream was found with a current sufficiently powerful to turn a mill. Another cave in the same State is named Big Bone Cave, from the bones of the mastodon which have there been discovered. In the Raccoon mountains, near the N. W. extremity of Georgia, is a cave called Nickojack Cave, which has been explored to the distance of 3 miles. A stream of considerable size runs through it, which is interrupted by a fall. Caves are sometimes found which exhale poisonous vapors. The most remarkable known is the Grotto del Cane, a small cave near Naples. In Iceland there are many caves, formed by the lava from its volcanoes. In the volcanic country near Rome there are many natural cavities of great extent and coolness, which are sometimes resorted to as a refuge from the heat. In South America is the cavern of Guacharo, which is said to extend for leagues.

Caveat. In the United States this name is given to a notice lodged in the patent-office by a person who wishes to patent an invention, but desires to be protected till he has perfected it. It stands good for a year.

Cave Dwellers, prehistoric men dwelling in caves, and cave-dwelling animals of corresponding periods; also cave-dwelling men of more recent historic times. In America, caves with human remains have been investigated in a number of States. There are remains that have been deposited within the period of authentic history. There are still cave-dwelling Indians in Northern Mexico.

Cavendish, Frederick Charles, Lord, second son of the Duke of Devonshire, an English statesman; born in Eastbourne, Nov. 30, 1836. He sat in Parliament from 1865 till 1882, when he succeeded Mr. Forster as chief secretary for Ireland. On May 6, he and Mr. Burke were stabbed to death in the Phœnix Park. Eight months later, twenty "Irish Invincibles" were tried for the murder, and, Carey and two others having turned Queen's evidence, five of the rest were hanged, three sentenced to penal servi-

tude for life, and the remaining nine to various terms of imprisonment. Carey disappeared; but in July news came from the Cape that he had been shot dead by an Irishman named O'Donnell. O'Donnell was taken back to London and hanged.

Cavendish, or **Candish, Thomas,** an English circumnavigator in the reign of Elizabeth; born about 1555. Having collected three small vessels for the purpose of making a predatory voyage to the Spanish colonies, he sailed from Plymouth in 1586, took and destroyed many vessels, ravaged the coasts of Chile, Peru, and New Spain, and returned by the Cape of Good Hope, having circumnavigated the globe in 2 years and 49 days, the shortest period in which it had then been effected. In 1591 he set sail on a similar expedition, during which he died, in 1592.

Cave Temple. a cave used as a temple, but the name is especially applied to temples excavated in the solid rock.

Caviare, a prepared article of food consisting of the salted roes of several kinds of large fish, chiefly of the common sturgeon. It is prepared chiefly in Russia, where it is greatly esteemed as food. It is used also in America.

Cavité, a small seaport of Luzon, Philippine Islands; about 11 miles S. W. of Manila and fronting directly on the bay; pop. (1903) 4,494. The town dates almost from the first occupation of the Spaniards and was elaborately fortified with docks and arsenals in the 18th century. On May 1, 1898, Admiral Dewey won his great victory off Cavité. The Americans immediately occupied the arsenal, and upon the arrival of American troops Cavité was fortified and made a naval and military base. The province of the same name has an area of 2,188 square miles; pop. (1903) 134,779.

Cavour, Count Camillo Benso di, an Italian statesman, born in Turin, Aug. 10, 1810. He became a member of the Sardinian Chamber of Deputies in 1849. In 1852 he became premier, and took an active part in cementing an alliance with Great Britain and France, and making common cause with these powers against Russia during the Crimean War. This caused a war with Austria, in which Sardinia was aided by France (1859). In 1860 Garibaldi's expedition to Sicily took place; but toward this Count Cavour was forced to maintain an apparent coldness. He lived to see the meeting of the first Italian Parliament, which decreed Victor Emmanuel king of Italy. He died June 6, 1861.

Cavy, a genus of South American rodents. It includes the guinea pig. All have a short tail, or none at all, and bear a slight resemblance to a pig.

Cawnpur, a town, India, Northwest Provinces, on the right bank of the Ganges, which is here about a mile wide, 130 miles N. W. from Allahabad, 628 miles N. W. of Calcutta, and 266 miles S. E. of Delhi. Pop. about 197,000. In 1857 the native regiments stationed here mutinied and marched off, placing themselves under the command of the notorious Nana Sahib. General Wheeler, the commander of the European forces, defended his position for some days, but was induced to surrender to the rebels on condition of his party being allowed to quit the place uninjured. This was agreed to; but after the European troops, with the women and children, had been embarked in boats on the Ganges, they were treacherously fired on by the rebels; many were killed, and the remainder conveyed back to the city, where the men were massacred and the women and children placed in confinement. The approach of General Havelock to Cawnpur roused the brutal instincts of the Nana, and he ordered his hapless prisoners to be slaughtered, and their bodies to be thrown into a well. The following day he was obliged to retreat to Bithoor.

Caxamarca, or **Cajamarca,** a department and town of Peru; area of the department about 14,200 square miles; pop. 213,400. The town is situated about 70 miles from the Pacific Ocean, 280 N. of Lima. Pop. 18,400. It was the scene of the imprisonment and murder of Atahualpa, the last of the Incas.

Caxias, (1), a town of Brazil, in the State of Maranhao, on the navigable Itapicuru, 190 miles from its mouth, with an active trade in cotton. Pop. 10,000. (2) an Italian agricul-

tural colony in the Brazilian State of Rio Grande do Sul, founded in 1875. Pop. 13,680.

Caxton, William, an English printer and scholar, born in the Weald of Kent, about 1422. His "Recuyell (collection) of the Histories of Troy," translated by him from the French, appears to have been printed in 1474, most probably at Bruges in Belgium. It was the first book in English reproduced by typography. He set up a printing-office in Westminster, 1477; and on Nov. 18 of that year issued "The Dictes and Sayings of the Philosophers," folio, a work ever memorable as the first book printed in England. He printed in all 71 separate works. He died in 1491.

Cayenne, a fortified seaport, capital of French Guiana, on an island at the mouth of a river of the same name. Cayenne is chiefly known as a great French penal settlement. The climate is extremely unwholesome for Europeans, large numbers of the convicts having been carried off by various malignant fevers. The name of the capital is sometimes used for the whole of French Guiana. Pop. 12,700.

Cayenne Pepper, or **Capsicum,** the name given to the powder formed of the dried and ground fruits, and more especially the seeds, of various species of Capsicum.

Cayes, or **Aux Cayes,** a seaport of Haiti, on the S. W. coast, 95 miles W. S. W. of Port-au-Prince. Pop. 8,000.

Cayley, Arthur, an English mathematician, born in Richmond, Surrey Co., England, Aug. 16, 1821. In 1882 he gave a course of mathematical lectures at Johns Hopkins University. He died Jan. 26, 1895.

Cayman Islands, three islands situated about 140 miles N. W. of Jamaica, of which they are dependencies. Grand Cayman, the largest and the only one inhabited, is 20 miles long and from 7 to 10 broad, and has two towns or villages. Pop. about 2,500. The other two islands are Little Cayman and Cayman Brac.

Cayuga Indians, a tribe of Indians dwelling in New York State, one of those forming the Six Nations. They lived around Cayuga Lake, where less than 200 of them remain.

Cayuga Lake, a lake of Central New York, noted for the picturesque scenery of its surroundings.

Cayuse, or **Willetpoo,** a tribe of North American Indians who formerly inhabited the region between the Des Chutes river and the Blue Mountains, Oregon, and also parts of Washington, S. of the Yakima river.

Cazauran, Augustus R., a Franco-American author and playwright, born in Bordeaux, France, Oct. 31, 1820. In 1848 he became implicated in an Irish rebellion, fled to the United States, and obtained employment as a reporter. During the Crimean War he acted as war corespondent to a London daily. When Lincoln was shot he was at the theater as dramatic critic, and wrote the first account of the assassination. He died in New York, Jan. 27, 1889.

Ceara, a State of Brazil, on the N. coast, with an area of 40,253 square miles, and 805,687 inhabitants. The interior presents a succession of wooded hills and wide plateaus. The capital, Ceara, had formerly only an open roadstead, but extensive harbor improvements, with breakwater and viaduct, have been provided. It is the terminus of a railway to Baturite and has a large trade. Pop., 40,902.

Cebu, one of the Philippine Islands, between Luzon and Mindanao, 135 miles long, with an extreme width of 30 miles. Sugar cultivation and the manufacture of abaca are the chief industries. Pop., 653,727. The town of Cebu, on the E. coast of the island, the oldest Spanish settlement in the Philippines, is a place of considerable trade. It is about 60 miles from Manila and has a population of 31,079.

Cebus, a genus of American monkeys, characterized by a round head and short muzzle, long thumbs, and a long, prehensile tail, entirely covered with hair.

Cecil, Robert, Earl of Salisbury, an English statesman, second son of William Cecil, born about 1563. He went to France as assistant to the English ambassador. On the death of Sir Francis Walsingham he succeeded him as principal secretary. Having secretly supported the interests of James I. previous to his accession to the crown he was continued in office

under the new sovereign and raised to the peerage. In 1608 he was made Lord High-Treasurer, an office which he held till his death, in 1612.

Cecropia Moth, the largest moth of the United States. It belongs to the silk worm family, and its caterpillar spins a large cocoon from which a coarse silk may be prepared.

Cedar, a tree which forms large forests on the mountains of Syria and Asia Minor. It is an evergreen, grows to a great size, and is remarkable for its durability. Of the famous cedars of Lebanon comparatively few now remain, and the tree does not grow in any other part of Palestine. Cedar timber was formerly much prized, but in modern times is not regarded as of much value, perhaps from the trees not being of sufficient age. The name is also applied to many trees which have no relation to the true cedar, as the Bermuda cedar, used for making pencils, the red or Virginian cedar, the Honduras cedar, and the red cedar of Australia.

Cedar Bird, a name given to the American wax-wing, from its fondness for the berries of the red cedar.

Cedar Creek, scene of a memorable battle between Union and Confederate armies in the American Civil War, at Alacken, Shenandoah Co., Va. On Oct. 19, 1864, at daylight, during Gen. Sheridan's absence, his army was surprised by the Confederates under Early, who turned the left flank and took the camps of the 8th and 19th corps, with 20 guns and some prisoners. Gen. Wright, in command of the Federals, retreated and reformed their line. Gen. Sheridan arriving 10 A. M., after a famous "ride," celebrated in T. B. Read's poem, repelled an assault, routing the Confederates, retaking what had been lost, capturing 30 guns and 2,000 prisoners. The cavalry pursued next day, and in the night Early retreated.

Cedar Lake, a lake of Canada, in the Saskatchewan district, a sort of expansion of the Saskatchewan river, receiving the waters of this large stream to pour them over the Grand Rapids into Lake Winnipeg. Between Grand Rapids and Cedar lake is another expansion, known as Cross lake. Cedar lake is nearly 30 miles long, and where widest 25 broad; area about 312 square miles.

Cedar Mountain, an elevation in Culpepper Co., Va., where, in the American Civil War, on Aug. 9, 1862, Gen. Banks was defeated by a superior Confederate force under General Jackson, and retired for reënforcements from General Pope, with a loss of 1,400 killed and wounded, 400 prisoners, and many missing. The Confederates, who held the field two days and then fell back to meet Lee at Gordonsville, lost 1,314.

Cedar Rapids, a city in Lynn county, Ia.; on the Cedar river, here spanned by a handsome bridge, and on the Burlington, Cedar Rapids & Northern and other railroads; 80 miles S. W. of Dubuque; has an extensive trade in corn, oats, hay, dairy products, poultry, horses, cattle, and swine; manufactures cereal foods, farming implements, windmills, cutlery, and furniture; and contains the shops of the Burlington, Cedar Rapids & Northern railroad, large pork-packing plants, Coe College (Presb.), and College of the Sacred Heart (R. C.). Pop. (1910) 32,811.

Celandine, a name given to two plants, the greater celandine and the lesser celandine.

Celaya, a town in the Mexican State of Guanajuato, on the Rio Laja, about 150 miles N. W. of the City of Mexico. The burning of its bull-ring, on Easter Sunday, 1888, caused considerable loss of life. Population, 21,245.

Celebes, one of the larger islands of the Indian Archipelago, between Borneo on the W. and the Moluccas on the E. It consists mainly of four large peninsulas separated by three deep gulfs; total area, 71,470 square miles. No part of it is more than 70 miles from the sea. Celebes is mountainous and has several active volcanoes. It has also broad grassy plains and extensive forests. Gold is found in all the valleys of the N. peninsula. Copper occurs at various points, and tin also. Diamonds and other precious stones are found. The island is entirely desitute of feline or canine animals, insectivora, the elephant, rhinoceros, and tapir, etc. The

inhabitants may be classed into two groups: the Mohammedan semi-civilized tribes, and the pagans, who are more or less savages. The capital is Macassar, in the S. W. of the island. Pop. estimated at 1,997,860.

Celery, the common English name of a species of parsley. The blanched leaf-stalk of the cultivated varieties is used extensively for salads, etc.

Celeste, Madame, a French dancer, born in Paris, Aug. 6, 1814, early showed remarkable talent. She made her début in 1827 at New York, and during her residence in the United States married a Mr. Elliott. She retired from the stage in 1874, and died at Paris, Feb. 12, 1882.

Celestial Empire, The, a popular name for the Chinese Empire, taken from the Chinese words "Tien Chao" (Heavenly Dynasty). Hence the name "Celestials," applied to natives of China.

Celestial Sphere, the background of sky on which we see all celestial objects projected. It is supposed to be of indefinite radius with the observer at the center.

Celestine V., (Pope Pietro di Monrone), a Benedictine monk, who founded the order of the Celestines, which was suppressed by Pope Pius VI., 1776–78. He was elected Pope in 1294, after an interregnum of six years. A few months after, he resigned his office and was succeeded by Boniface VIII., who confined him in the castle of Fumone, where he died. Celestine was canonized in the year 1313 by Clement V.

Celibacy, the state of being celibate or unmarried; specially applied to the voluntary life of abstinence from marriage followed by many religious devotees and by some orders of clergy, as those of the Roman Catholic Church.

Cell, a term of various applications: (1) the compartments of a honeycomb, (2) one of the small structures composing the substance of plants, generally indistinguishable by the naked eye, and each at least, for a time, being a whole complete in itself. (3) A term often applied to any small cavity but properly restricted to a microscopical anatomical element with a nucleus cell-wall and cell-contents when typically formed. (4) The space between the two ribs of a vault, or the space inclosed within the walls of an ancient temple. (5) A structure in a wrought-iron beam or girder; a tube consisting of four wrought-iron plates riveted to angle-iron at the corners. (6) In electricity, a single jar, containing a couple of plates, generally copper and zinc, united to their opposite or to each other usually by a wire.

Cellini, Benvenuto, Italian sculptor, born in Florence, 1500; died there 1571. His chief works are: the "Perseus" at Florence; the colossal "Mars" at Fontainebleau; and a "Christus" in the Escurial Palace.

Cellular Tissue, a kind of tissue made of a number of separate cells of minute bags adherent together. It is found filling interstices between the various organs in man and the vertebrated animals.

Celluloid, an ivory-like compound, which can be molded, turned, or otherwise manufactured for various purposes for which, before its introduction, ivory and bone were employed.

Cellulose, a substance of general occurrence, and constituting the basis of vegetable tissues. Corn pith cellulose is an American preparation used as a packing in warships to protect them from sinking when pierced by shot or shell. This packing is placed like a belt three feet in thickness, inside the steel hull along the water line.

Celsius, the name of a Swedish family, several members of which attained celebrity in science and literature. The best known is Anders Celsius, born in 1701, died in 1744. After being appointed Professor of Astronomy at the University of Upsal he traveled in Germany, England, France, and Italy, and in 1736 he took part in the expedition of Maupertuis and others for the purpose of measuring a degree of the meridian in Lapland. He is best known as the constructor of the Centigrade thermometer.

Celt, the longitudinal and grooved instrument of mixed metal often found in Scotland, also a stone instrument of a wedgelike form found in barrows and other repositories of Celtic antiquarian remains. Though the primary application of the word celt was to the metallic implement, yet the stone celt

is believed by archæologists and geologists to be the older of the two.

Celtiberi, a people of ancient Spain supposed to have arisen from a union of the aborigines, the Iberians, and their Celtic invaders. Various limits have been assigned to their country, which included probably all the N. of Spain as far S. as the sources of the Guadalquivir. After 72 B. C. they do not appear in history.

Celts, the earliest Aryan settlers in Europe according to common theory. They appear to have been driven westward by succeeding waves of Teutons, Slavonians, and others. Herodotus mentions them as mixing with the Iberians who dwelt round the river Ebro in Spain. At the beginning of the historic period they were the predominant race in Great Britain, Ireland, France, and elsewhere. The Romans called them generally Galli. They appear to have reached the zenith of their power in the 2d and 3d centuries B. C. Some tribes of them settled in a part of Asia Minor to which the name of Galatia was given. They finally went down before the power of Rome. At an early date the Celts divided into two great branches, speaking dialects widely differing from each other, but belonging to the same stock. One of these branches is the Gadhelic or Gaelic, represented by the Highlanders of Scotland, the Celtic, Irish, and the Manx; the other is the Cymric, represented by the Welsh, the inhabitants of Cornwall, and those of Brittany. The sun seems to have been the principal object of worship among the Celts, and groves of oak and the remarkable circles of stone commonly called "Druidical Circles," their temples of worship.

Cements, substances capable of uniting bodies closely. They are variously composed according to the nature of the surfaces to unite, and their exposure to heat or moisture. Building cement is a strong mortar consisting of hydraulic limes which contain silica, and set quickly.

Cenci, Beatrice, called the beautiful parricide, the daughter of Francesco Cenci, a noble Roman, who, after his second marriage, behaved toward the children of his first marriage in the most shocking manner, procured the assassination of two of his sons, on their return from Spain, and abused his youngest daughter Beatrice. She planned and executed the murder of her father and was beheaded in 1599. She is the alleged subject of a painting by Guido, and is the heroine of one of Shelley's most powerful plays. Recent researches have deprived the story of its romantic elements, and have shown Beatrice to be a very commonplace criminal. Her stepmother and brother, who were equally guilty with her, were also executed.

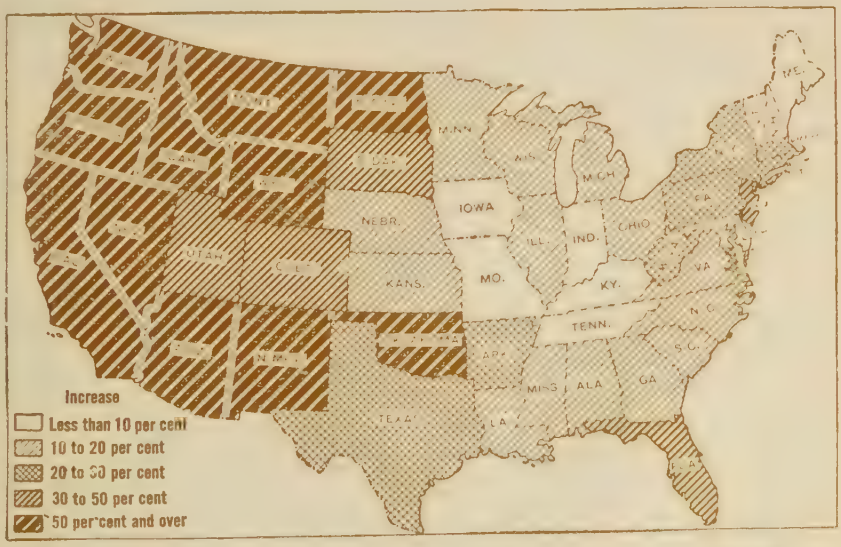
Cenis, a mountain belonging to the Graian Alps, between Savoy and Piedmont, 11,755 feet high. It is famous for the winding road constructed by Napoleon I., which leads over it from France to Italy, and for an immense railway tunnel, which, after nearly fourteen years' labor, was finished in 1871. The Mount Cenis Pass is 6,765 feet above the level of the sea, whereas the elevation of the entrance to the tunnel on the side of Savoy is only 3,801 feet, and that on the side of Piedmont 4,246 feet. The total length of the tunnel is nearly 8 miles. The total cost amounted to about $12,000,000.

Cenotaph, an empty monument, that is, one raised to a person buried elsewhere.

Censer, a vase or pan in which incense is burned, or a bottle with a perforated cap, used for sprinkling odors. Censers were much used in the Hebrew service, but their form is not accurately ascertained. Josephus tells us that King Solomon made 20,000 gold censers for the temple of Jerusalem to offer perfumes in, and 50,000 others to carry fire in. The censer used in the Roman Catholic Church at mass, vespers, and other offices, is suspended by chains, which are held in the hand, and is tossed in the air, so as to throw the smoke of the incense in all directions.

Censor, the title of two Roman magistrates originally appointed for the purpose of taking the census. But their powers were much increased when they had the inspection of public morals, and authority to remove citizens from their tribes, depriving them of all their privileges except liberty. The Censors had also the power of making contracts for public build-

POPULATION PER SQUARE MILE, BY STATES



PER CENT OF INCREASE IN TOTAL POPULATION

ings, and the supply of victims for sacrifices. There is in some countries a censor whose duty it is to inspect and examine books, plays, etc., before they are published, to insure that they shall contain nothing to offend against public morality or decency. In Russia the office is one of unlimited authority over all publications. An official appointed in time of war, at military headquarters, to supervise and endorse all press dispatches.

In China there is a Board of Censors whose members are theoretically superior to the central administration, and have a right to present any remonstrance to the sovereign. It is understood that experience with the present empress dowager has made them cautious.

Census, a periodical enumeration of the people of any State or country, with such information on other subjects as may be desired. The United States census of 1910 was authorized June 29, 1909, by Congress, which limited the inquiries to population, agriculture, manufactures, mines and mining, and directed that it should be taken as of April 15, and that all reports be completed within three years from July 1, 1909. This census had at its head E. Dana Durand, Director of the Permanent Census Bureau, who was assisted by 330 district supervisors, 1,600 special agents, 70,000 enumerators, and 3,500 clerks for combining and tabulating the enumerators' returns. The total cost, including publications, was estimated at $13,000,000. The compilation and tabulation were done by means of cards, one for each of the approximately 90,000,000 persons enumerated, which were punched in spaces to show inquiry answers by machines resembling typewriters or adding machines, and run through automatic electrical tabulating machines to record the facts. Agricultural and other returns were tabulated by typewriter adding machines.

Cent, or **Centime,** the name of a small coin in various countries, so called as being equal to a 100th part of some other coin. In the United States and in Canada the cent is the 100th part of a dollar. In France the centime is the 100th part of a franc. Similar coins are the centavo of Chili, and the centesimo of Italy, Peru, etc.

Centaur, a mythical creature, half man, half horse, said to have sprung from the union of Ixion and a Cloud; the most celebrated was Chiron. They inhabited Thessaly, and were also called Hippocentaurs. The myth probably arose from some herdsman on horseback, who, being seen by individuals unacquainted with the uses of the horse, was supposed to form, together with his steed, one integral body. It is also the name of a constellation in the Southern Hemisphere.

Centennial Exhibition, an international exposition held in Philadelphia from May 10 to Nov. 10, 1876, to celebrate the 100th anniversary of the Declaration of Independence. The various contributions of money amounted to $6,800,000. The total attendance was 9,910,966, of which 8,004,274 were paid. The largest attendance was on Pennsylvania Day (Sept. 28,), when 274,919 persons were on the grounds.

Centennial State, Colorado; it was admitted to the Union in 1876, the 100th year of American independence.

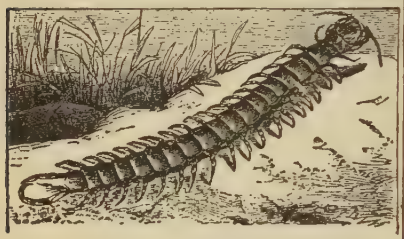
Center-Board, a contrivance used in yachts or shallow keelless vessels to counteract the tendency to drift to leeward, caused by the absence of a keel. It is lowered through a prepared slit, in the bottom of the craft.

Center of Population, the center of gravity of the population of a country, each individual being assumed to have the same weight. The center of population in the United States has clung to the parellel of 39° lat. and has moved in a westward direction during the last 110 years.

Centigrade Thermometer, a thermometer scaled to represent the interval between the freezing and the boiling point of water, divided into 100 equal parts, the freezing-point being taken as zero.

Centipede, a worm having a long slender, depressed body, protected by coriaceous plates, 21 pairs of legs, distinct eyes, 4 on each side, and antennæ with 17 joints. The name is, however, popularly extended to species of nearly allied genera. Centipedes run

nimbly, feed on insects, and pursue them into their lurking-places.



GIANT CENTIPEDE.

Central America, the narrow tortuous strip of land which unites the continents of North and South America, extending from about lat. 7° to 18° N. The limits assigned to it include the six republics of Panama, Guatemala, Honduras, San Salvador, Nicaragua, and Costa Rica, with British Honduras. It thus has Mexico on the N. W., Colombia or New Granada on the S. E., and the Pacific Ocean and Caribbean Sea on either side. Its entire length is about 800 miles, with a breadth varying from between 20 and 30 miles to 350 miles. The area is estimated at about 200,000 square miles; the pop. at 3,200,000.

Guatemala is remarkable for containing, with exception of the island of Java, the greatest number of active volcanoes known to exist within similar limits. The highest in Central America, is Agua, which is said to attain an elevation of 15,000 feet. This volcano has obtained its name from its emitting torrents of water and stone instead of fire. The mountains of Central America do not generally attain an elevation equal to those of the two adjoining continents, with exception of the volcanoes. The coast lands are generally narrow, and in some places the mountains and high lands come close down to the water's edge. The rivers of this territory are small, and have short courses, the longest not exceeding from 200 to 300 miles, while many of them are not more than 50. The principal lake is that of Nicaragua, which is upward of 100 miles in length, and about 50 miles in breadth. The other considerable lakes are those of Managua or Leon, Golfo Dolce, Golfete, Peten, Atitlan, Amatitlan, Guija, and Cojutepeque.

The climate is exceedingly various, owing to the inequality of the surface. The low grounds on the coast of the Caribbean Sea are exposed to violent tropical heats, and are generally unhealthy; but on the table-lands any temperature, according to altitude, may be obtained all the year round, with a salubrious climate. The dry season lasts from about October to May; the rest of the year is called the wet season, although the rain falls during the night only, the days being fair and cloudless, and the air pure and refreshing. The vegetable productions are as various as the climate. Various creepers and parasitic plants, and among them beautiful orchids, adorn the forests. The zoology of Central America differs little from that of other parts of tropical America. Serpents are numerous, some of them dangerous. Alligators infest some of the streams and lakes, and often attack domestic animals. The rivers, lakes, and seas abound with fish. Of the geology little is known with accuracy. Gold, silver, iron, lead, and mercury are found; but none are worked to any great extent. Jasper and marble are worked in Honduras; and sulphur is collected near the volcano of Quezaltenango. There are also many salt springs; and salt is procured in large quantities on the shores of the Pacific.

The population consists of three classes — whites; mestizoes, or the offspring of whites and Indians; and pure-blooded Indians or aboriginal natives. The proportions of this population have been estimated at one-twelfth whites, four-twelfths mixed races, and seven-twelfths Indians. The Roman Catholic religion is professed by all. The chief occupation of the people is agriculture. The chief export is coffee; others include cocoa, fruits, hides, indigo, sugar.

The Spaniards in 1524 laid the foundations of the city of Guatemala. After the subjugation of the Quiches, the remaining tribes were subdued with comparative facility, and the dominion of the conquerors was perma-

nently established. The government of this country, as constituted by Spain, was subject to the Mexican; but the dependence was far from being close. It was denominated the kingdom of Guatemala, and governed by a captain-general. Its inhabitants remained true to Spain till 1821 when they declared their independence; and although for a time a large part of the country was joined to Mexico under the rule of Iturbide, yet on his downfall they recurred to their original purpose of forming a separate republic. A constituent congress was convoked, which on July 1, 1823, published a decree declaring the five States already mentioned a republic under the title of the United States of Central America. Civil dissensions were not long in making themselves felt, however, and in 1839 the union between the States was formally dissolved. Guatemala, Honduras, Nicaragua, and San Salvador again formed a union in 1842, but this lasted only till 1845. Since that time several atempts (one in 1898) have been made to unite the States, but without permanent success.

Central America contains antiquities of a very interesting nature, which indicate that the aboriginal inhabitants of the country had even attained a very respectable proficiency in the knowledge of the arts of life. Ruins of large cities exist in various places, with remains of temples, altars, and ornamental stones, statues of deities, and other works of sculpture.

Central Falls, a town in Providence county, R. I.; on the Blackstone river and the New York, New Haven & Hartford railroad; 5 miles N. of Providence; is in a farming section; has a large trade in dairy products; and manufactures cotton, woolen, and hair goods, leather, and machinery, having fine power from the river. Pop. (1910) 22,754.

Central India, the official term for a group of feudatory States in India. The total area is about 77,281 square miles; pop. (1901) 8,628,781.

Centralization, a term in a specific sense applied to a system of government where the tendency is to administer by the central government matters which had been previously, or might very well be, under the management of local authorities.

Central Park, the most noted park in New York City, and contains 840 acres. It was laid out under the direction and management of Hon. Andrew H. Green, who for thirteen years had absolute control of the work, and who is known as "The Father of New York." It contains among other objects of interest, the Mall, the Croton Reservoirs, Cleopatra's Needle, the Metropolitan Museum of Art, the Museum of Natural History, and several lakes.

Central Provinces, an extensive British territory in India. They became a separate administration in 1861, and are under the authority of a chief commissioner. Their total area is 115,936 square miles, of which 86,501 square miles are British territory, and 29,435 the territory of native protected states, 15 in number. Pop. (1901), 9,845,318.

Central Tennessee College, a co-educational institution in Nashville, Tenn., organized in 1866 under the auspices of the Methodist Episcopal Church.

Central University, a co-educational institution in Pella, Ia., organized in 1853, under the auspices of the Baptist Church.

Central University, an educational institution in Richmond, Ky., organized in 1873, under the auspices of the Presbyterian Church.

Central Wesleyan College, a co-educational institution in Warrenton, Mo., organized in 1864, under the auspices of the Methodist Episcopal Church.

Centre College, an educational institution in Danville, Ky., organized in 1819, under the auspices of the Presbyterian Church.

Centumviri, judges of ancient Rome, three from each tribe, who determined ordinary causes. The extent of their jurisdiction is uncertain.

Centurion, a Roman military officer commanding a company of infantry, consisting of 100 men.

Century, an aggregate number of 100 of things; a period of 100 years. This is the uniformly accepted sense of the word now. Modern chro-

nology among Christian nations centers at the birth of Christ, and the centuries are numbered according to their order either before or after that era. The word is also applied to a division of the Roman tribes for the election of magistrates, the passing of laws, etc., on which the voting was by centuries; to a sub-division in the Roman army.

Century-plant, a popular name of the American aloe.

Cephalonia, an island of Greece, W. of the Morea, at the entrance of the Gulf of Patras, about 31 miles in length, and from 5 to 12 in breadth; area, 348 square miles; pop. 80,543. Earthquakes are not infrequent. One of the most destructive was that of the year 1867.

Cephalopoda, a class of mollusks, the highest in organization of that division of the animal kingdom. To this class belong the Nautili, Squids, Cuttle-fish, etc. The Cephalopoda receive their name from having organs of prehension and and locomotion attached to the head, an arrangement toward which a gradual approach may be traced in the highest gasteropod mollusks.

A CEPHALOPOD.

Cephas, a surname given by Christ to Simon. In the Greek it is Petros ("a rock"), in Latin, Petrus, and in English Peter.

Cepheus, a king or Ethiopia and husband of Cassiopeia; his name was given to a constellation of stars in the N. hemisphere surrounded by Cassiopeia, Ursa Major, Draco, and Cygnus.

Ceram, an island in the Moluccas, W. of New Guinea; area, about 7,000 square miles; pop., estimated at 200,000. It is about 200 miles long with an average width of 35 miles. Its interior is traversed by mountain ranges from 6,000 to 8,000 feet high. The vegetation is luxuriant. The inhabitants of the coast are of Malay origin, the interior being peopled by Alfoories. It is under the Dutch.

Ceramic Art, that department of plastic art which comprises all objects made of baked clay, and including all the varieties of earthenware and porcelain which can be regarded as works of art.

Cerastes, a genus of African vipers remarkable for their fatal venom, and for two little horns formed by the scales above the eyes. Hence they have received the name of horned vipers. The tail is very distinct from the body.

Cerate, the name of an external medicament, more or less liquid, having for its basis wax and oil. Simple cerate consists of 8 ounces of lard and 4 of white wax melted together and stirred till cold.

Cerberus, the three-headed dog which guards the entrance of the kingdom of Hades and Persephone. Orpheus, when he descended into the infernal regions in search of Eurydice, lulled him to sleep with his lyre; and Hercules dragged him from the gate of Hades, when he went after Alceste.

Cercis, a handsome Asiatic tree. It has received the name of the Judas-tree, from the tradition that it was upon a specimen of it, near Jerusalem, that the traitor Judas hanged himself.

Cerdic, a king of the West Saxons, who invaded England about the end of the 5th century, and established the kingdom of Wessex about 516. He died in 534.

Cere, the naked skin that covers the base of the bill in some birds, and which is supposed to exercise a tactile sense.

Cereals, a term derived from Ceres, the goddess of corn, and confined to wheat, barley, rye, oats, and other grasses, cultivated for the sake of their seed as food.

Cerebration, exertion or action of the brain, conscious or unconscious.

Cerebro-spinal, pertaining to the brain and spinal cord together, looked on as forming one nerve mass

Ceres, an asteroid, the first found. It was discovered by Piazzi on Jan. 1, 1801. Having observed it at Palermo, in Sicily, he called it Ceres, after the old tutelary divinity of that island.

Cereus, the Torch-thistle. The Suwarrow or Saguaro of the Mexicans, is the largest and most striking of the genus. It rises to the height of 50 or 60 feet, and looks more like a candelabra than a tree of the normal type. The genus are generally useful as cardiac agents and anti-pyretics.

Cerigo (ancient Cythera), a Greek island in the Mediterranean, S. of the Morea, from which it is separated by a narrow strait; area about 100 square miles.

Cerinthus, a heretic who lived at the close of the apostolic age, but of whom we have nothing better than uncertain and confused accounts.

Cerium (named by the discoverers after Ceres), a metal found with two other metals, lanthanum and didymium, in cerite.

Ceroxylon, a genus of South American palms; the wax palm.

Cerro Blanco, the highest mountain in New Mexico; summit 14,269 feet.

Cerro de Pasco, the capital of the Peruvian department of Junin, stands at an elevation of 14,276 feet, 138 miles N. E. of Lima. Near it are some of the richest silver mines on the continent. The climate is cheerless and inclement. Pop. 7,000.

Cerro Gordo, a mountain-pass in Mexico, through which passes the National road from Vera Cruz to Jalapa and Mexico. It is celebrated as the scene of a victory by General Scott with 9,000 United States troops over an army of 13,000 Mexicans under Santa Ana, April 17–18, 1847. This victory enabled Scott to take the town of Jalapa the following day.

Cerro Gordo de Potosi, a mountain in the Andes of Bolivia; S. W. of Potosi; 16,150 feet in height; remarkable for its deposits of silver.

Cerro Largo, a department in the N. E. of Uruguay, well watered, with large savannahs and forests. Area, 5,753 square miles; pop. 29,909, chiefly engaged in cattle-raising. Capital, Cerro Largo or Melo; pop. 5,000.

Cerros, or **Cedros Island,** an island belonging to Mexico, in the Pacific Ocean, off the W. coast of Lower California.

Certaldo, a town of Central Italy, 19 miles S. W. of Florence. It is noteworthy as the residence of Boccaccio, who was born and died here. His house is still standing, much as it was in the poet's time.

Certiorari, in law, a writ issuing out of a superior court to call up the records of an inferior court or remove a cause there depending, that it may be tried in the superior court.

Cervantes Saavedra, Miguel de, author of "Don Quixote," and one of the greatest writers of modern times; born in Alcala de Henares, Oct. 9, 1547. He died April 23, 1616 (on the same day as Shakespeare), in Madrid, where he had resided during the last years of his life. He was buried without any ceremony, and no tombstone marks the spot where he rests.

Cervera y Topete, Pascual, a Spanish naval officer; born in the province of Jerez, in 1833. Graduated at the Naval Academy of San Fernando; entered on active service in 1851; and was made first lieutenant in 1859; captain in 1868; and admiral subsequently. He was a prominent factor in the 10-years' war in Cuba, when he succeeded in blockading the ports; was sent to London, as a representative of Spain, to take part with other nations in a conference bearing on naval questions of international importance; and commanded the fleet sent against the American squadron operating in Cuban waters after the declaration of war in 1898. He took refuge in the inner harbor of Santiago de Cuba, and when, on July 3, he attempted to escape, under imperative orders from his superiors, his entire fleet was destroyed by the squadron under the official command of Rear-Admiral Sampson and the actual command (in the temporary absence of that officer) of Rear-Admiral Schley. Admiral Cervera and his surviving officers were sent to Annapolis, Md., as prisoners of war, and soon afterward were released and returned to Spain. Died Apr. 3, 1909.

Cervidæ, a family of mammals. The males of all the species and also the female of the reindeer have ant-

lers, which are deciduous, this last character completely distinguishing them from the Oxen. The antlers also are solid. The species are widely distributed and well known. None are found in Africa S. of the Sahara or in Australia.

Cervus, the genus of animals to which the stag belongs, forming the type of the deer family.

Cesnola, Luiga Palma di, an American archæologist, born in Piedmont, Italy, June 29, 1832. He served in the Italian war with Austria and came to the United States in 1860, serving in the Civil War. He was United States Consul at Cyprus, where he made extensive archæological discoveries. Until his death, Nov. 21, 1904, he was director of the Metropolitan Museum of Art in New York city.

Cespedes y Borges, Carlos Manuel de, a noted Cuban patriot, born in Bayamo, April 18, 1819. Implicated in Prim's conspiracy while in Spain, he was banished from there and returned to Cuba. As leader of the revolt of 1868 he was chosen by the insurgents President of the newly proclaimed republic. He was killed in a skirmish with Spaniards, March 22, 1872.

Cestoid Worms, the Cestoda, or intestinal worms, consisting of tape worms and other creatures which resemble them in structure and habits. The number of different kinds is great. Their natural history is important in reference to the health of human beings and of the most valuable of domesticated animals.

Cetacea, aquatic mammals which depart in many important anatomical points from the other members of the class, their structure being so modified as to render them unfit for terrestrial life. The whales, the porpoise, narwhal, etc., represent the leading divisions of the group. The body is fish-like in form, the head passing gradually into the trunk, which tapers posteriorly and ends in a bilobate caudal fin which is placed horizontally, not as in the fishes, vertically. The posterior limbs are wanting, and the anterior are converted into broad paddles, within which are present representatives of all the bones usually found in the fore limb of mammals. The fish-like aspect is further increased by the presence of a dorsal fin, as in the dolphin and finner whale.

The arrangement of the respiratory and circulatory systems, which enable the Cetacea to remain for some time under water, are interesting. The nostrils open directly upward on the top of the head, and are closed by valvular folds of integument which are under the control of the animal. When the animal comes to the surface to breathe it expels the air violently, and the vapor it contains becomes condensed into a cloud. The blood-vessels, especially those of the thorax and spinal canal, break up into extensive plexuses or networks, in which a large amount of oxygenated blood is delayed, and thus the animal is enabled to remain under water.

Cetewayo, a Kaffir chief, son of Panda, King of the Zulus. The Natal government secured the recognition of Cetewayo as king in 1873. A dispute which had arisen regarding lands on the frontier was settled in favor of the Zulus; but on the refusal of Cetewayo to comply with the conditions war was declared against him by the British, and the king made prisoner in 1879. In 1882 he was conditionally restored to part of his dominions. In the following year he was driven from power by the chief Usibepu, and remained under the protection of the British until his death in 1884.

Cetus ("the Whale"), a large constellation lying on both sides of the equator, but mostly S. of it, one of Ptolemy's original 48.

Cettinje, the capital of the new kingdom of Montenegro; situated in a lofty mountain valley, 19 miles E. of Cattaro, with which it is connected by a steep road. Turkish invaders sacked and burnt the town in 1683, 1714, and 1785, but it was each time rebuilt. Pop. about 1,500.

Ceuta, a fortified port belonging to Spain, on the coast of Morocco, opposite Gibraltar. The mixed population number about 9,700. It has resisted several sieges by the Moors, and is still the most important of the four African Presidios. An attempt to strengthen the fortifications was abandoned (1899) upon representations from the British government to the

cabinet at Madrid. Many Cuban patriots were prisoners there before Spain gave up its hold on Cuba.

Cevennes, the chief mountain range in the S. of France. With its continuations and offsets, it forms the watershed between the river-systems of the Rhone and the Loire and Garonne.

Ceylon, (native Singhala, ancient Taprobane), an island belonging to Great Britain in the Indian Ocean, about 60 miles S. E. of the S. extremity of Hindustan, from which it is separated by the Gulf of Manaar and Palk's Strait. Length, about 270 miles N. to S.; average breadth, 100 miles; area, 25,364 square miles.

Where the jungle has been cleared away and the land drained and cultivated, the country is perfectly healthy; where low wooded tracts, and flat marshy lands abound, covered with a rank, luxuriant vegetation, the climate is eminently insalubrious.

Most of the animals found on the opposite continent are native to this island, excepting the royal tiger, which does not exist here. Elephants are numerous and are esteemed for their superior strength and docility. Bears, buffaloes, leopards, jackals, monkeys, and wild hogs are numerous. Crocodiles, serpents, and reptiles of all sorts abound. Of the snake tribe, consisting of about 26 different species, six only are venomous. Among the insects are the leaf and stick insects, the ant-lion, the white ant, etc.

In the luxuriance of its vegetable productions, Ceylon rivals the islands of the Indian Archipelago, and in some respects bears a strong resemblance to them; its most valuable products are tea, rice, coffee, cinnamon, and the cocoanut. Tea is being widely cultivated. Tobacco is raised principally in the N. district, and is of excellent quality. Indigo grows wild, but is not sought after.

Ceylon is one of the British crown colonies, its government being conducted by a governor and two councils, executive and legislative, of both of which the governor is president. The first is composed of six members, the other of 17 members. The powers of the councils are limited, being wholly subservient to the governor, who can carry into effect any law without their concurrence. All laws must be approved by the Secretary of State for the Colonies before they can take effect. Any individual properly qualified may be appointed to the most responsible situation, without reference to service, nation or religion, and native Singhalese have occupied some of the highest posts. Of the population (1901) 3,576,990, more than half are said to be Buddhists, and about 500,000 are of the Hindu religion. On the W. and S. W. coast numbers of the Singhalese profess the Roman Catholic religion. There are a number of Episcopal clergy in the island, subordinate to the Bishop of Colombo; various other Protestant bodies have places of worship, but the Protestants are less than half the number of the Roman Catholics.

The Singhalese have a colloquial language peculiar to themselves, but their classic and sacred writings are either in Pali or Sanskrit. The Malabars use the Tamil. English is becoming more and more common.

The principal towns of the island are Colombo, Trincomalee, Kandy, Galle, Gaffna, and Kornegalle.

Chacornac, Jean, a French astronomer, born in Lyons, June 21, 1823. He is principally known for his discoveries of asteroids, six in number, and most of his work was done at the Paris Observatory under Leverrier. He died in Paris, Sept. 26, 1873.

Chadbourne, Paul Ansel, an American educator and writer, born in North Berwick, Me., Oct. 21, 1823. He was president of the Massachusetts Agricultural College at Amherst; of the University of Wisconsin; of Williams College. He died in New York, Feb. 23, 1883.

Chaddock College, a co-educational institution in Quincy, Ill.; organized in 1857, under the auspices of the Methodist Episcopal Church.

Chadwick, French Ensor, an American naval officer, born in Morgantown, W. Va., Feb. 29, 1844. During the war with Spain he commanded the armored cruiser "New York," the flagship of the North Atlantic Squadron.

Chadwick, John White, an American writer and Unitarian clergyman, born in Marblehead, Mass., Oct.

19, 1840. He died in Brooklyn, New York, Dec. 11, 1904.

Chæronea, a city of Bœotia, in ancient Greece, near the Cephissus, on the borders of Phocis. Philip II., King of Macedon, defeated the united Bœotian and Athenian forces near this place, B. C. 338; and here, also, Sylla defeated the generals of Mithridates VI. B. C. 86. Plutarch was born here, A. D. 46.

Chafer, a term loosely applied to certain insects of the beetle order, especially such as themselves or their larvæ are injurious to plants.

Chaffee, Adna Romanza, an American military officer, born in Orwell, O., April 14, 1842. He received a public school education; entered the regular army as a private, July 22, 1861; became a captain, Oct. 12, 1867; and colonel of the 8th U. S. Cavalry, May 8, 1899. On May 4, 1898, he was commissioned Brigadier-General of volunteers for the war with Spain; on July 8, following, was promoted to Major-General; and on April 13, 1899, was honorably discharged under this commission. On the last mentioned date he was re-appointed a Brigadier-General of volunteers, and on July 19, 1900, the President, having selected him to command the American military forces in China, commissioned him a Major-General of volunteers. He reached Taku, China, on July 28, and led the American contingent of the allied force which entered Peking on Aug. 15, and rescued the foreign legationers. General Chaffee made a brilliant record in the Apache Indian campaigns; commanded the troops which captured El Caney, in Cuba; and afterward was chief-of-staff to both Generals Brooke and Wood, when governor-general of Cuba. On June 19, 1901, General Chaffee was appointed military governor of the Philippines.

Chaffinch, a European bird, so called because it delights in chaff, and is by some much admired for its song.

Chagos Islands, a group of islands in the Indian Ocean belonging to Great Britain; a S. extension of the Maldive Islands.

Chagres, a town of the United States of Colombia, on the N. coast of the Isthmus of Panama, at the mouth of the Chagres river. The river of the same name rises about 10 miles N. E. of Panama, makes an immense bend round to the N. E., and enters the Caribbean Sea. Though toward its mouth it varies in depth from 16 to 30 feet, it is yet, by reason at once of its rapidity and its falls, but little available for navigation. The route of the projected Panama canal is by the valley of the Chagres for part of its course, and the canal would cross the river repeatedly. The "Chagres fever" is named after the river.

Chaille-Long, Charles, an American explorer, born of French parentage, in Baltimore, Md., 1843. After serving in the Confederate army he went to Egypt, where he was appointed lieutenant-colonel by the Khedive (1870). Gordon made him chief-of-staff and sent him on a mission to King Mtesa of Uganda.

Chain, in surveying, is a measure consisting of 100 links, each 7.92 inches in length, and having a total length of 4 rods, or 66 feet.

Chain Armor, coats and other pieces of mail, formed of hammered iron links, constituting a flexible garment which fitted to the person.

Chains, series of links interlocked with the adjacent ones, in such a manner as to form continuous and flexible lines.

Chain Shot, two balls connected either by a bar or chain, formerly used for cutting and destroying the rigging of an enemy's ship.

Chair of St. Peter, at Rome, a wooden chair overlaid with ivory work and gold.

Chaise, a two-wheeled carriage for two persons, with a top, and usually drawn by one horse.

Chalcedon, a Greek city of ancient Bithynia, opposite Byzantium (Constantinople), at the entrance of the Black Sea, about 2 miles S. of the modern Scutari. It was finally destroyed by the Turks, by whom it was taken, about 1075.

Chalcedony, a cryptocrystalline variety of quartz, having the luster nearly of wax, and either transparent or translucent. Color, white, grayish, pale brown to dark brown or black; tendon-color common; sometimes deli-

cate blue. Also of other shades, and then having other names.

Chalcis, a Greek town, anciently the chief town of Eubœa, separated by the narrow strait of Euripus from the Bœotian coast, on the mainland of Greece, with which it was connected by a bridge. Chalcis early became one of the greatest of the Ionic cities, carrying on an extensive commerce. It was subsequently a place of importance under the Romans.

Chaldæa, in ancient geography the regions of Babylonia, or more generally Babylonia. The early history of Chaldæa is obscure. The Chaldæans were conquered by the Assyrians, with Babylon, and waged frequent wars with the latter power. When the Assyrian power began to wane, the Chaldæans, being a more warlike and powerful people than the Babylonians, became supreme; Chaldæa and Babylonia, by their conquests under Nebuchadnezzar, became one kingdom, and the names Chaldæa and Babylonia became synonymous terms.

Chaldee Language, a name often given to the Aramean language, one of the principal varieties of the ancient Semitic. Chaldee literature is usually arranged in two divisions: the Biblical Chaldee, or those portions of the Old Testament which are written in Chaldee, namely, Daniel from ii: 4 to vii: 28; Ezra iv: 8 to vi: 18; and vii: 12-26; and Jeremiah x: 11; and the Chaldee of the Targums and other later Jewish writings.

Chalet, the French-Swiss name for the wooden hut of the Swiss herdsmen on the mountains; but also extended to Swiss dwelling-houses generally, and to picturesque villas built in imitation of them.

Chaleur Bay, or **Bay of Chaleurs,** an inlet of the Gulf of St. Lawrence, between Quebec and New Brunswick.

Chalice, a term generally applied to a communion cup for the wine in the Eucharist, often of artistic and highly ornamental character.

Chalk, a well-known earthy limestone, of an opaque white color, soft, and admitting no polish. It is an impure carbonate of lime, and is used as an absorbent and anti-acid, and for making marks for various purposes.

Challenge, to jurors, is an objection either to the whole panel or array, or to the jurors individually, and it is either peremptory, or for cause assigned.

Challenger Expedition, a circumnavigating scientific exploration of the open sea sent out by the British government in 1872–1876. In 1872 the "Challenger," a corvette of 2,306 tons, was completely fitted out and furnished with every scientific appliance for examining the sea from surface to bottom. The ship was given in charge to a naval surveying staff, under Captain Nares, and to a scientific staff, with Professor Wyville Thomson at their head, for the purpose of sounding the depths, mapping the basins, and determining the physical and biological conditions of the Atlantic, the Southern and the Pacific Oceans. Between the Admiralty Isles and Japan the "Challenger" made her deepest sounding, on March 23, 1875, 4,575 fathoms, then the deepest sounding on record except two. It is interesting to note here that the United States surveying ship "Nero," in an expedition extending from April 22, 1899, to Feb. 11, 1900, made the two deepest soundings on record, 5,160 and 5,269 fathoms, both in the Pacific Ocean.

Chalmers, Thomas, a noted Scotch divine, born in Fife, in 1780. He may be regarded as the founder of the Free Church of Scotland. He died in Morningside, May 31, 1847.

Chalybeate Waters, those which contain salts of iron in sufficient quantity to give them a special value in the treatment of cases of anæmia, etc.

Chama, a large shellfish found in tropical seas, especially among coral reefs. One sometimes weighs 300 pounds. The byssus by which it adheres to the rock is so tough that a hatchet is required to cut it through.

Chamba, a hill-state of the Punjab district, British India, N. of the districts of Kangra and Gurdaspur.

Chamber, a word used in many countries to designate a branch of government whose members assemble in a common apartment, or applied to bodies of various kinds meeting for various purposes. The imperial chamber of the old German Empire was a

court established at Wetzlar, near the Rhine, by Maximilian I. in 1495, to adjust the disputes between the different independent members of the German Empire.

Chamberlain, an officer charged with the direction and management of the private apartments of a monarch or nobleman.

Chamberlain, Joseph, an English statesman, born in London in July, 1836. In 1868 he was appointed a member of the Birmingham town-council, was mayor of Birmingham from 1873 to 1876, and chairman of the Birmingham school-board from 1874 to 1876. After unsuccessfully contesting Sheffield against Mr. Roebuck in 1874, he was returned for Birmingham without opposition in June, 1876. He soon made his mark in Parliament, and on the return of the Liberals to power in 1880 he was appointed President of the Board of Trade, with a seat in the cabinet. Meanwhile his influence was increasing rapidly outside the House; he came to be regarded as the leader of the extreme Radical party. During the last hours of Mr. Gladstone's government he was understood to be opposed to the renewal of the Irish Crimes Act; and during the general election of 1886 he was most severe in his strictures on the moderate Liberals, and produced an "unauthorized" programme which included the readjustment of taxation, free schools, and the creation of allotments by compulsory purchase. He was returned by the western division of Birmingham. On Feb. 1, 1886, he beame president of the Local Government Board, but resigned on March 26, because of his strong objections to Mr. Gladstone's Home Rule measures for Ireland. He became leader of the Liberal-Unionists when the Duke of Devonshire went to the Upper House. Lord Salisbury sent him to Washington as commissioner on the Canadian fishery dispute, and in 1895 he was made Colonial minister in the Unionist Cabinet. As such he had to face the troubles in South Africa, and to cherish closer fellow-feeling with the Colonies. He carried the Australian Federation measure in Parliament (1900), and later had to face opposition from within the Liberal party. In 1888 he was married to Mary, daughter of William C. Endicott, Secretary of War in President Cleveland's first administration. After the Boer war he visited South Africa and made himself personally acquainted with the situation there. His strong advocacy of "fair trade," or a modified protective tariff caused great disturbance in the ministry and its supporters, and in September, 1903, Mr. Chamberlain resigned as a member of the Cabinet.

Chamberlain, Joshua Lawrence, an American army officer and educator. He was born in Bangor, Me., Sept. 8, 1828; graduated at Bowdoin College in 1852, and entered the volunteer service of the Union in 1862, became a Major-General in 1865, and received the colors of Lee's army on its surrender. After the war he returned to the professorship at Bowdoin College which he had previously held. In 1867–1871 was governor of Maine, and in 1871–1883 was president of Bowdoin, resigning to engage in business in New York city.

Chambers, Charles Julius, an American journalist, born in Bellefontaine, O., Nov. 21, 1850. In 1870 he traveled through the West Indies, Europe, the United States, and Canada, as special correspondent of the "New York Herald." In 1876 he published an account of his few weeks of experience in an insane institution, entitled, "A Mad World," which excited great interest.

Chambers, Robert, a Scotch prose-writer and publisher, born in Peebles, July 10, 1802. He and his brother began in poverty as small booksellers; issued penny leaflets of useful information for the people which became very popular, and at last took regular periodical form in "Chambers' Journal," and the great publishing-house which bears the name of both developed gradually. The "Chambers' Encyclopædia" was the outgrowth of the "Journal." He died in St. Andrews, March 17, 1871.

Chambers, William, a Scotch prose-writer and editor, brother and partner of Robert, born in Peebles, April 16, 1800. He died in Edinburgh, May 20, 1883.

Chambersburg, a borough and county-seat of Franklin county, Pa.,

on the Conecocheague and Falling Creeks and the Cumberland Valley and Western and the Philadelphia and Reading railroads, 52 miles W. S. W. of Harrisburg. In Early's raid in the Civil War General McCausland entered Chambersburg with Confederate cavalry, July 30, 1864, and demanded a tribute of $200,000 gold; this not being paid the place was set on fire and two-thirds of it burned, causing a loss of $1,000,000.

Chambers of Commerce, bodies of merchants and traders associated for the purpose of promoting the interests of their own members, of the city to which the society belongs, and of the community. Of the means by which these objects are sought to be accomplished the following may be mentioned as the most prominent: (1) by representing and urging on the Legislature the views of their members in mercantile affairs; (2) by aiding in the preparation of legislative measures having reference to trade; (3) by collecting statistics bearing upon the staple trade of the city; (4) in some places by acting as a sort of court of arbitration in mercantile questions; (5) by attaining by combination advantages in trade which might be beyond the reach of individual enterprise.

The first institution of the kind in the United States, the New York Chamber of Commerce, was organized in 1768 and incorporated by royal charter from King George III. in 1770. There are similar bodies in every city and town of consequence in the United States.

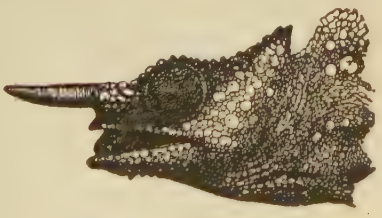
Chambly, Fort, a fort at the outlet of Lake Champlain at the time of the Revolutionary War. It was captured by the Colonists in 1775, and the colors of the 7th Regiment of British regulars was sent to the Continental Congress as trophies of the victory.

Chambord, Henri Charles Ferdinand Marie Dieudonne, Comte de, Duke of Bordeaux, the last representative of the elder branch of the French Bourbon dynasty, called by his partisans Henry V. of France; born in Paris, Sept. 29, 1820, seven months after the assassination of his father. Charles X., after the revolutionary outbreak of 1830, abdicated in his favor, but the young count was compelled to leave the country. He lived successively in Scotland, Austria, Italy, and England, keeping a species of court, and occasionally issuing manifestos. In 1846 he married the Princess Maria-Theresa, eldest daughter of the Duke of Modena, and in 1851 inherited the domain of Frohsdorf, near Vienna, where he subsequently resided. He died in Austria, Aug. 24, 1883.

Chambre Ardente, the name given in France to a court of law, instituted by Francis I. It was hung with black and lighted with torches, for the purpose of trying and burning heretics; and also to the extraordinary commissions established for the examination of poisoners, and under the regent duke of Orleans for the punishment of public officers charged with offenses against the revenues, as also of those who were guilty of fraud in the matter of Law's bank.

Chambre des Comptes, a great court established in France, prior to the Revolution, for the registration of edicts, ordinances, etc.

Chameleon, a genus of reptiles belonging to the Saurian or lizard-like order, a native of parts of Asia and Africa. The very remarkable power



HEAD OF CHAMELEON.

which these animals possess of changing their color, at a very early period called the attention of observers to their habits. Its skin is composed of a sort of small, scaly grains, and under ordinary circumstances is of a greenish gray color. The eyes are capable of moving independently of each other, taking different directions at the same moment. Several species of chameleon are known, and are natives of Africa, Madagascar, Southern

Asia, and the Molucca Islands. They pass their lives altogether upon trees, feeding upon small insects, for which their construction shows them to be perfectly adapted.

Chameleon, a Southern constellation containing nine stars, lies within the Antarctic Polar Circle.

Chamois, a well-known species of the antelope found only in high, mountainous regions, where they feed in small flocks or families, on the highest

CHAMOIS.

cliffs affording vegetation. The chamois are exceedingly shy, and have very acute senses, so that it is only by great patience and skill that the hunter can come sufficiently near to shoot them.

Chamois Leather, a leather made from the skin of the Chamois, but the skins of sheep, goats, deer, calves, and the split hides of other animals, are used for making this kind of leather.

Chamomile or **Camomile,** a well-known plant. It is perennial, and has slender, trailing, hairy, and branched stems. The flower is white, with a yellow center. Both leaves and flowers are bitter and aromatic. The fragrance is due to the presence of an essential oil, called oil of chamomile, of a light blue color when first extracted. It is cultivated in gardens in the United States, and also found wild

Chamouni, or **Chamonix,** a celebrated valley in France, department Haute-Savoie, in the Pennine Alps, over 3,000 feet above sea-level. It is about 12 miles long, by 1 to 6 miles broad, its E. side formed by Mount Blanc and other lofty mountains of the same range, and it is traversed by the Arve. The village of Chamouni is much frequented by tourists.

Champaign, a city in Champaign county, Ill.; on the Illinois Central and other railroads; 33 miles W. of Danville; has manufactures of windmills, furnaces, boilers, brick and tile, piano, and iron and steel tools; and is the seat of the University of Illinois. Pop. (1910) 12,421.

Champ de Mars, a large, rectangular public place in Paris, on the left bank of the Seine, about 3,300 feet long and 1,600 feet wide. At the outbreak of the French Revolution the square was constructed by the united efforts of all classes of Paris, and on July 14, 1790, the first anniversary of the taking of the Bastille, was held a grand pageant and festival at which universal pledges of "Liberty, Equality, and Fraternity" were exchanged. This spot was the scene of a bloody massacre July 17, 1791. It is now used chiefly as a parade-ground. In its center is the Eiffel Tower.

Champerty, the purchase of an interest in a thing in dispute, with the object of maintaining and taking part in the litigation, or assisting another to carry on a suit under an agreement to receive part of the sum or thing to be recovered.

Champion, one who combats or fights; specifically, in the Middle Ages, a person who took up the cause and fought in the place of another. Single combat was one of the ways frequently adopted to decide the right of a cause; and women, children, or aged persons were allowed to appear by a representative. At one time the champions were looked upon as disreputable, being ready, for hire, to take up any quarrel. At a later period, however, during the ages of chivalry, the champion was a knight, who entered the lists on behalf of an injured lady, a child, or one incapable of self-defense. The word is also applied to one who earns, or claims, the preëminence in feats of physical prowess, or skill.

Champion Hills, a place in Hinds county, Miss., near Vicksburg, where, on May 16, 1863, the Union army defeated the Confederates.

Champlain, Lake, a picturesque body of water between the Green and Adirondack mountains, on the border of the States of Vermont and New York; length about 125 miles, maximum depth 280 feet. The waters find an outlet at the N. end by the Richelieu or Sorel river, which empties into the St. Lawrence. Since the construction of the canal, which connects it with the Hudson river, the lake has become an important medium of commerce between Canada and the United States. In July, 1909, the 300th anniversary of the discovery of the lake was celebrated by the United States, England, France, Canada, New York and Vermont.

Champlain, Samuel de, a French navigator, born at Brouage, Saintonge, about 1570. In 1599 he sailed to the West Indies, Mexico, and Panama. On his return (1601) he prepared a record of this cruise, with charts, etc. In March, 1603, he sailed for North America, and explored, by boat, the St. Lawrence river up to the Falls of St. Louis, and down to Gaspe. In May, 1604, he sailed with De Monts along the shores of Nova Scotia, wintered on the island of St. Croix, and founded a colony at Port Royal. From 1604 to 1606 he made careful surveys and charts of the coast as far as Cape Cod. He revisited France in 1607, but sailed again in 1608, and founded Quebec. In 1609 he accompanied an Algonquin and Huron expedition against the Iroquois, and discovered Lake Champlain. From September, 1609, to March, 1610, he was engaged in bringing over French mechanics for his colony. He became lieutenant-governor of New France (Oct. 8, 1612); fortified Quebec (1620); but was compelled (1629) to surrender to an English fleet, and was taken to England. Released in 1632, he sailed again for New France. He died in Quebec, Dec. 25, 1635.

Champlin, John Denison, an American author, born in Stonington, Conn., Jan. 29, 1834. He has written many useful and instructive books for the young.

Champney, Elizabeth (Williams), an American novelist, born in Springfield, O., in 1850. Many of her books are illustrated by her husband, J. W. Champney.

Champney, James Wells, an American artist, born in Boston, Mass., July 16, 1843. He studied in Europe under Edouard Frere, and in 1882 became a member of the National Academy. He died in New York in 1903.

Champs-Elysées, (Fr. "Elysian Fields"), a place of public resort in Paris, which consists of an avenue and the gardens surrounding it.

Chanca, Dr. (believed to have been **Diego Alvarez Chanca),** a Spanish physician, born in Seville, who became a companion of Columbus on his second voyage in 1493.

Chancel, the end of a church, in which the altar is placed. It was formerly divided from the body of the church by a screen and is raised above the level.

Chancellor, in ancient times a petty officer stationed at the fence of bars or lattice-work in a law-court, to introduce such functionaries as were entitled to pass inside. The Lord Chancellor of England was originally the king's chief secretary, to whom petitions were referred. He is now the highest judicial functionary in the kingdom. Several of the United States have chancellors, high judicial officers who preside over courts of chancery.

The Chancellor of the German Empire is an officer, the extent of whose power and influence has never been exactly defined. In modern Germany since the unification of the German Empire the office has been made illustrious by its association with the name of Bismarck, the first to hold that position under the new regime. In general terms it may be stated that the German Chancellor is an executive of very great powers, being at once the adviser and prime minister of the Emperor.

Chancellorsville, Battle of, one of the great battles of the American Civil War, fought at Chancellorsville, Va., May 2 and 3, 1863. Gen. Joseph Hooker commanded the Federal force, and Gen. Robert E. Lee the Confederate force. Although Hook-

er's army was superior in numbers, being about 130,000 against 60,000 of the Confederates, the advantage at the end of the battle lay with the latter. During a flank movement the 11th corps of the Federal army, under Gen. O. O. Howard, was surprised and thrown into a panic near nightfall of the first day. The flank movement extended so far that the bullets of the Confederates were turned upon their own troops, and by their fire "Stonewall" Jackson was mortally wounded. The Federal loss was 18,000, the Confederate loss 13,000.

Chancery, in law, a court having special defined power. In the United States it is a court having equity jurisdiction. American courts of equity are, in some instances, distinct from those of law; in others, the same tribunals exercise the jurisdiction both of courts of law and equity, though their forms of proceeding are different in their two capacities.

Chandler, Seth C., an American astronomer, born in Boston, Mass., Sept. 16, 1845; well known for his investigations and observations of the phenomena of variable stars, the computation of comet orbits, and, in connection with J. Ritchie, Jr., of Boston, for devising a system of astronomical code-telegrams for the announcement of astronomical discoveries.

Chandler, William Eaton, an American politician, born in Concord, N. H., Dec. 28, 1835. He was graduated at Harvard Law School in 1855, entered the New Hampshire Legislature in 1862, became Judge Advocate General of the Navy Department in 1865, and Secretary of the Navy in 1882, serving three years. In 1887–1901 he was a United States Senator from New Hampshire.

Chang-Chow-Foo, or **Chang-Chan,** a city of China, about 36 miles S. W. of Amoy, which is its port. It lies in a valley in the province of Fu-Chien, and is surrounded by hills and intersected by a river. It is the center of the Fu-Chien silk industry.

Changeling, a child left or taken in the place of another.

Chang-Sha, a city of China, capital of the Province of Hu-Nan, on the Hang-Kiang, a tributary of the Yang-tse-Kiang.

Chanler, William Astor, an American explorer, born in Newport, R. I., June 11, 1867. He studied at Harvard, but left the university to make explorations in Africa. He was elected to the New York Legislature, and to Congress. He served in the war with Spain.

Channel Islands, a group of islands in the English Channel, off the W. coast of department La Manche, in France. They belong to Great Britain, and consist of Jersey, Guernsey, Alderney, and Sark, with some dependent islets. They are almost exempt from taxation, and their inhabitants enjoy besides all the privileges of British subjects. Area 112 square miles, pop., 88,289.

Channing, William Ellery, an American preacher and writer; born in Newport, R. I., April 7, 1780; studied at Harvard College. His early views are said to have been evangelical, but he soon became a decided Unitarian, and by his zeal was termed the "Apostle of Unitarianism." His first appointment as a preacher was in 1803, when he obtained the charge of a congregation in Federal street, Boston. He died in Burlington, Vt., Oct. 2, 1842.

Channing, William Ellery, an American poet; nephew of William E. Channing, the elder; born in Boston, Mass., June 10, 1818; died in 1901.

Channing, William Henry, an American Unitarian clergyman and biographer; nephew of W. E. Channing, the elder; born in Boston, May 25, 1810. Settling in England, he succeeded James Martineau as pastor at Liverpool. His daughter married Sir Edwin Arnold. He died in London, Dec. 23, 1884.

Chantibun, or **Chantabon,** an important commercial port of Siam, near the mouth of the Chantibun river, in the Gulf of Siam, occupied by the French as security for the fulfillment of the treaty of 1893. Pop., 30,000.

Chantry, a church or chapel endowed for the maintenance of one or more priests, for the purpose of singing daily masses for the souls of the endowers, and such others as they may appoint. Also the endowment for the performance of masses for the soul of the donor, or others.

Chanzy, Antoine Eugene Alfred, a French General, born in Nouart (Ardennes), March 18, 1823; entered the artillery as a private, received a commission in the Zouaves. He was elected to the National Assembly, and narrowly escaped being shot by the Communists in 1871. In 1873–1879 he was Governor-General of Algeria. Chosen a life Senator in 1875, he was put forward for the presidency in 1879. He was ambassador at St. Petersburg in 1879–1881, and afterward commanded the 6th Army Corps at Chalons, where he died suddenly, Jan. 4, 1883.

Chao-Chau, a city of China, on the Han-Kiang, in the Province of Kwang-tung, 195 miles N. E. of Hong-Kong.

Chapala, a lake in Mexico, on the high plateau of Jalisco, surrounded by steep, bare mountains.

Chapel, a place of worship, formerly distinguished from a church by the worship to be performed; churches being for general use, and chapels for private use. In Roman Catholic churches, portions of the main building, dedicated to particular saints, in honor of whom a service is there performed, are called chapels. The word is also applied to an association of union workmen in a printing-office for the purpose of promoting and enforcing order among themselves.

Chapelle, Placide Louis, an American clergyman, born in Mende, France, Aug. 28, 1842. He came to the United States in 1859, and was ordained a Roman Catholic priest. For five years he was a missionary, and from 1870 to 1891 held pastorates in Baltimore and Washington. He was made coadjutor archbishop of Santa Fe in 1891, archbishop in 1894, and archbishop of New Orleans in 1897; in 1898 he became Apostolic Delegate to Cuba, Porto Rico, and the Philippines. He died Aug. 9, 1905.

Chapin, Edwin Hubbell, American Universalist divine (1814-80), was the author of valuable moral and ethical works for young people.

Chapin, John R., an American illustrator, born in Providence, R. I., in 1823. He received a common school education and studied law, but took up art. He was a pioneer in periodical illustration in the United States. In 1863 he made the designs for the new series of bills for the National currency. He died Nov. 12, 1904.

Chaplain, literally a person who is appointed to a chapel, as a clergyman not having a parish or similar charge. Chaplains in the United States army rank as captains of infantry; in the navy they have the rank of lieutenant, commander and captain, according to length of service.

Cha-Poo, or **Cha-Pu,** a seaport town of China, in the Province of Cheh-Chiang (or Che-Kiang), on the N. side of Hang-Chau Bay, 35 miles from Ning-Po.

Chapter, one of the chief divisions of a book. As the rules and statutes of ecclesiastical establishments were arranged in chapters, so also the assembly of the members of a religious order, and of canons, was called a chapter.

Chapter-House, the building attached to a cathedral or religious house in which the chapter meets for the transaction of business.

Chapultepec, a rocky elevation about 3 miles S. W. of the City of Mexico. During the war with the United States, Gen. Pillow stormed the castle on this hill, Sept. 13, 1847. The Emperor Maximilian made Chapultepec his principal palace, and it is now occupied by the President, portions used by a school and observatory being still reserved for them.

Charade, a species of enigma, or riddle, the subject of which is a name or word that is proposed for solution from an enigmatical description of its several syllables taken separately as so many individual words, and then from a similar description of the whole name or word.

Charcot, Jean Martin, a French physician, born in Paris, Nov. 29, 1825. His specialty was nervous and mental diseases, and he performed many curious and successful experiments in hypnotism and mental suggestion. He died Aug. 16, 1893. His son, JEAN MARTIN, became an eminent scientist; led an expedition to discover the South Pole in 1908; and while he failed he reached lat. 70° S., and mapped 120 miles of hitherto unknown coast.

Chares, a Rhodian sculptor, born in Lindus, Rhodes; lived about 290–280 B. C. He was a pupil of Lysippus and the sculptor of the Colossus of Rhodes, one of the "seven wonders of the world."

Charge d'affaires, a representative of a country at a less important foreign court, inferior to an ambassador, or a minister, to whom is intrusted all matters of diplomacy.

Charge of the Light Brigade, The, or "Death charge of the 600 at Balaclava," Oct. 25, 1854, a remarkable military movement made by the 13th Light Dragoons, the 17th Lancers, the 11th Hussars, commanded by Lord Cardigan, the 8th Hussars, and the 4th Light Dragoons. The Russians were advancing in great strength to cut off the Turkish force from the British. Lord Raglan sent an order to Lord Lucan to advance, and Lord Lucan, not understanding what was intended, applied to Captain Nolan, who brought the message, and Nolan replied: "There, my lord, is your enemy." Lucan then gave orders to Lord Cardigan to attack, and the 600 men rode forward into the jaws of death. In 20 minutes 12 officers were killed and 11 wounded; 147 men were killed and 110 wounded, and 325 horses were slain.

Charing-Cross, the titular center of London, so named from a cross which stood until 1647 at the village of Charing in memory of Eleanor, wife of Edward I. It is now a triangular piece of roadway at Trafalgar Square.

Chariot, in ancient times a kind of carriage used either for pleasure or in war.

Charivari, an imitative word, having its origin in slang, describing a mock serenade of discordant music with such accompaniments as tin kettles, shouting, whistling, groaning, hissing, and screaming, and the like.

Charlemagne, Charles the Great, King of the Franks, and subsequently Emperor of the West, was born in 742, probably at Aix-la-Chapelle. His father was Pepin the Short, King of the Franks. On the decease of his father, in 768, he was crowned king, and divided the kingdom of the Franks with his younger brother Carloman, at whose death in 771 Charlemagne made himself master of the whole empire, which embraced besides France, a large part of Germany. He attracted by his liberality the most distinguished scholars to his court, and established an academy in his palace at Aix-la-Chapelle where he died and was buried Jan., 814. His tomb was opened to examine the relics in 1000, 1481, 1483, 1861, and July 18, 1906.

Charleroi, a fortified and important manufacturing town of Belgium, in the province of Hainault, on the navigable river Sambre, 33 miles S. of Brussels. The town is the center of the large coal-basin of Charleroi.

Charles VII., King of France; born in Paris, Feb. 22, 1403, and though only the fifth son of Charles VI. and Isabella of Bavaria, became, by the successive deaths of his elder brothers, heir-presumptive to the crown. That he should ever succeed to it was then extremely problematical, as Henry V. of England was pursuing his career of conquest, and shortly afterward, by the treaty of Troyes, secured to himself the hand of Charles' sister Catharine, and the succession to the French throne after her father's death. On the King of England's death in 1422 his son Henry VI. was proclaimed King of France at Paris. The war with the national party, represented by the Orleanist faction, with the dauphin at their head, was maintained for several years by the English, under the command of the Duke of Bedford. So successfully did the latter conduct operations that Charles was nearly ready to abandon the struggle when his fortunes were retrieved by one of the most singular incidents recorded in history. This was the arrival in his camp of the Maid of Orleans, who by the enthusiasm which she inspired turned the tide of success against the English. Through the intervention of the Earl of Suffolk a marriage was concluded between the young King Henry VI. and Margaret of Anjou, niece of Charles VII.'s queen. In the treaty entered into on this occasion the territory of Maine was secretly surrendered to France, and subsequently, on hostilities being resumed between the two countries, the troops of Charles conquered the whole of Guienne, and finally expelled the English from all their

possessions in France except Calais. The last years of Charles' reign were embittered by domestic broils, in which his son and successor Louis XI. took a prominent part against his father. He died at the castle of Mehun, near Bourges, on July 22, 1461. His share in the treacherous murder of the Duke of Burgundy, and base abandonment to her fate of Joan of Arc, are stains on his memory which can never be effaced.

Charles IX., King of France, born in 1550, ascended the throne at the age of 10 years, after the death of his brother Francis II. During his reign occurred the Massacre of St. Bartholomew's Day. Charles died, childless, in 1574. He was succeeded by his brother Henry III.

Charles X., Comte d'Artois, King of France; born in Versailles in 1757; grandson of Louis XV., the youngest son of the dauphin, and brother of Louis XVI. After the downfall of Napoleon he entered France with the title of lieutenant-general of the kingdom, and issued a judicious proclamation, promising the reign of law and an entire oblivion of the past. In 1824 he succeeded his brother, Louis XVIII., under the title of Charles X., and gained a momentary popularity by the abolition of the censorship of the press. He was ignominiously driven from the throne in 1830. After formally abdicating in favor of his grandson, the Duke de Bordeaux, he revisited England, resumed his residence for a short time at Holyrood, and finally settled at Goritz in Styria, where he died of cholera in 1836.

Charles V., Emperor of Germany and King of Spain (in the latter capacity he is called Charles I.); the eldest son of Philip, Archduke of Austria, and of Joanna, the daughter of Ferdinand and Isabella of Spain; born in Ghent, Feb. 24, 1500. Philip was the son of the Emperor Maximilian and Mary, daughter of Charles the Bold, last Duke of Burgundy. Charles birth gave him claim to the fairest countries of Europe. In 1519 Charles, on the death of Maximilian, was elected emperor.

The progress of the Reformation in Germany demanded the care of the new emperor, who held a Diet at Worms. Luther, who appeared at this Diet with a safe conduct from Charles, defended his cause with energy and boldness. The emperor kept silent; but after Luther's departure a severe edict appeared against him in the name of Charles, who thought it his interest to declare himself the defender of the Roman Church.

After the defeat and capture of Francis I. of France the power of Charles became a source of uneasiness to most other princes of Europe. Pope Clement VII. placed himself at the head of a league of the principal States of Italy against the emperor, but their ill-directed efforts were productive of new misfortunes. Rome was taken by storm by the troops of the Constable of Bourbon, sacked, and the Pope himself made prisoner. Charles V. publicly disavowed the proceedings of the Constable, went into mourning with his court, and carried his hypocrisy so far as to order prayers for the deliverance of the Pope. On restoring the holy father to liberty he demanded a ransom of 400,000 crowns of gold, but was satisfied with a quarter of that sum. He also released, for 2,000,000, the French princes who had been given to him as hostages. Henry VIII. of England now allied himself with the French monarch against Charles, who accused Francis of having broken his word. The war terminated in 1529 by the treaty of Cambray, of which the conditions were favorable to the emperor. Charles soon after left Spain, and was crowned in Bologna as King of Lombardy and Roman Emperor. In 1530 he seemed desirous, at the Diet of Augsburg, to reconcile the Reformers to the Roman Church; but not succeeding, he issued a decree against the Protestants, which they met by the Schmalkaldic League. He also published, in 1532, a law of criminal proceedure. Having compelled Solyman to retreat, he undertook, in 1535, an expedition against Tunis, reinstated the dey, and released 20,000 Christian slaves.

The disturbances caused in Germany by the Reformation induced the emperor to accede to the peace of Crespy with France in 1545. The policy of Charles was to reconcile the two parties, and with this view he al-

ternately threatened and courted the Protestants. After some show of negotiation the Protestant princes raised the standard of war. The emperor declared in 1546 the heads of the league under the ban of the empire, excited divisions among the confederates, collected an army in haste, and obtained several advantages over his enemies. John Frederick, the Elector of Saxony, was taken prisoner in the battle of Muhlberg in 1547. Charles received him sternly, and gave him over to a court-martial consisting of Italians and Spaniards, under the presidency of Alva, which condemned him to death. The elector saved his life only by renouncing his electorate and his hereditary estates, but he remained a prisoner. Meanwhile the emperor appeared somewhat more moderately inclined toward the vanquished party. On coming to Wittenberg he expressed surprise that the exercise of the Lutheran worship had been discontinued. The Landgrave of Hesse-Cassel, one of the heads of the Protestants, was compelled to sue for mercy. Notwithstanding his promise Charles deprived him of his freedom. After having dissolved the League of Schmalkalden the emperor again occupied himself with the plan of uniting all religious parties, and for this purpose issued the "Interim," which was as fruitless as the measures proposed by him at the Diet of Augsburg. The fortunes of war changed, and the Protestants dictated the conditions of the treaty of Passau in 1552.

Charles saw all his plans frustrated and the number of his enemies increasing. He abdicated the imperial throne, and selected for his residence the monastery of St. Justus, near Plasencia in Estremadura, and here he exchanged sovereignty, dominion, and pomp for the quiet and solitude of a cloister. His death took place Sept. 21, 1558.

Charles I., King of England and Scotland; born in Scotland in 1600; was the third son of James VI. and Anne of Denmark. Soon after the birth of his son James succeeded to the crown of England, and on the death of Prince Henry in 1612, Robert, the second son, having died in infancy, Charles became heir-apparent, but was not created Prince of Wales till 1616. His youth appears to have passed respectably, little being recorded of him previous to his journey into Spain in company with Buckingham, in order to pay his court in person to the Spanish Infanta. Through the arrogance of Buckingham this match was prevented, and the prince was soon after contracted to Henrietta Maria, daughter of Henry IV. of France. In 1625 he succeeded to the throne on the death of his father. Charles began to employ his threatened mode of raising funds by loans, benevolences, and similar unpopular proceedings; which were wholly opposed to the rising notions of civil liberty throughout the nation, and to the constitutional doctrine which rendered the Commons the guardian and dispenser of the public treasure. Civil war followed, and Charles was defeated and captured. He was tried before a special tribunal on the charge that he had appeared in arms against the Parliamentary forces, and sentence of death was pronounced against him, and only three days were allowed him to prepare for his fate. The interposition of foreign powers was vain. After passing the three days in religious exercises, and in tender interviews with his friends and family, he was led to the scaffold. His execution took place before the Banqueting House, Whitehall, on Jan. 30, 1649, where the ill-fated king submitted to the fatal stroke, in the 49th year of his age.

Charles II., King of England, Ireland, and Scotland; son of Charles I. and Henrietta Maria of France; born in London, May 29, 1630. He was a refugee at The Hague on the death of his father, on which he immediately assumed the royal title. He first intended to proceed to Ireland, but was prevented by the progress of Cromwell. He therefore listened to an invitation from the Scots, who had proclaimed him their king on Feb. 5, 1649, and arrived in the Cromarty Firth, June 16, 1650. In 1651 he was crowned at Scone; but the approach of Cromwell with his conquering army soon rendered his abode in Scotland unsafe. Hoping to be joined by the English royalists, he took the spirited resolution of passing Cromwell and entering England, Carlisle

readily throwing open its gates to receive him. He was immediately pursued by that active commander, who gained the battle of Worcester, and Charles, after a variety of imminent hazards, being on one occasion sheltered for 24 hours in the branches of the famous Boscobel oak, reached Shoreham, in Sussex, and effected a passage to France.

It is the province of history to state the circumstances that produced the Restoration, which General Monk so conducted that Charles, without a struggle, succeeded at once to all those dangerous prerogatives which it had cost the nation so much blood and treasure, first to abridge and then to abolish. This unrestrictive return was not more injurious to the nation than fatal to the family of the Stuarts, which, had a more rational policy prevailed, might have occupied the throne at the present time. On May 29, 1660, Charles entered his capital amid universal and almost frantic acclamations; and the different civil and religious parties vied with each other in loyalty and submission. In 1662 he married the Infanta of Portugal, a prudent and virtuous princess, but in no way calculated to acquire the affection of a man like Charles. The indolence of his temper and the expenses of his licentious way of life soon involved him in pecuniary difficulties; and the unpopular sale of Dunkirk to the French was one of his most early expedients to relieve himself. After a troubled reign he died from the consequences of an apoplectic fit, in February, 1685, in the 55th year of his age.

Charles XII., King of Sweden; born in Stockholm, June 27, 1682; was instructed in the languages, history, geography, and mathematics. On the death of his father in 1697 when he was but 15 years old, he was declared of age by the estates. Frederick IV. of Denmark, Augustus II. of Poland, and the Czar Peter I. of Russia concluded an alliance which resulted in the Northern War. The Danish troops first invaded the territory of the Duke of Holstein-Gottorp. Charles proposed in the Council of State the most energetic measures against Denmark. After making some arrangements respecting the internal administration he embarked at Carlscrona in May, 1700. Thirty ships of the line and a great number of small transports, strengthened by an English and Dutch squadron, appeared before Copenhagen. Arrangements were being made for the disembarkation when Charles, full of impatience, plunged from his boat into the water, and was the first who reached land. The Danes retired before the superior power of the enemy. Copenhagen was on the point of being besieged when the peace negotiated at Travendal was signed (Aug. 8, 1700), by which the Duke of Holstein was confirmed in all the rights of which it had been attempted to deprive him. Thus ended the first enterprise of Charles XII., in which he exhibited as much intelligence and courage as disinterestedness.

After thus checking Denmark the attacks of Augustus and Peter were to be repelled. The former was besieging Riga, the latter menaced Narva and the country situated about the Gulf of Finland. Without returning to his capital, which he never revisited, Charles caused 20,000 men to be transported to Livonia, and went to meet the Russians, whom he found 80,000 strong in a fortified camp under the walls of Narva. On Nov. 30, 1700, between 8,000 and 10,000 Swedes placed themselves in order of battle, under the fire of the Russians, and the engagement began. In less than a quarter of an hour the Russian camp was taken by storm. Thirty thousand Russians perished on the field or threw themselves into the Narva; the rest were taken prisoners or dispersed. After this victory Charles crossed the Dwina, attacked the intrenchments of the Saxons, and gained a decisive victory. Charles might now have concluded a peace which would have made him the arbiter of the North; but instead of so doing he pursued Augustus to Poland. Augustus attempted in vain to enter into negotiations with Charles, who refused to negotiate with him.

The war continued; the Swedes gained a brilliant victory at Clissau; in 1703 all Poland was in the possession of the conquerors; the cardinal primate declared the throne vacant; and by the influence of Charles the

new choice fell on Stanislaus Leczinsky. Augustus hoped to be secure in Saxony, as Peter had meanwhile occupied Ingria, and founded St. Petersburg, at the mouth of the Neva. But the victor of Narva despised an enemy on whom he hoped, sooner or later, to take an easy revenge, and invaded Saxony. At Altranstadt he dictated the conditions of peace in 1706. The Livonian Patkul, who was the prime mover of the alliance against Sweden, was delivered up to him on his demand, and was broken on the wheel. The King of Sweden, however, before he left Germany, required the emperor to grant to the Lutherans in Silesia perfect freedom of conscience; and the requisition was complied with.

In September, 1707, the Swedes left Saxony. They were 43,000 strong, well clothed, well disciplined, and enriched by the contributions imposed on the conquered. Six thousand men remained for the protection of the King of Poland; with the rest of the army Charles took the shortest route to Moscow. But having reached the region of Smolensk he altered his plan, at the suggestion of the Cossack hetman Mazeppa, and proceeded to the Ukraine, in the hope that the Cossacks would join him. But Peter laid waste their country, and the proscribed Mazeppa could not procure the promised aid. General Lewenhaupt, who was to bring reinforcements and provisions from Livonia, arrived with only a few troops. Pultawa, abundantly furnished with stores, was about to be invested when Peter appeared with 70,000 men. Charles, in reconnoitering, was dangerously wounded in the thigh; consequently, in the battle of July 8, 1709, he was obliged to issue his commands from a litter, without being able to encourage his soldiers by his presence. They were obliged to yield to superior force, and the enemy obtained a complete victory. Charles saw the flower of his army fall into the power of those Russians so easily vanquished at Narva. He himself, together with Mazeppa, fled with a small guard, and was obliged to go several miles on foot. He finally found refuge and an honorable reception at Bender, in the Turkish territory.

After his romantic return from Turkey to Sweden Charles continued to fight. He was besieging Frederikshall, when, on Nov. 30, 1718, as he was in the trenches, leaning against the parapet and examining the workmen, he was struck on the head by a cannon ball. He was found dead in the same position, his hand on his sword, in his pocket the portrait of Gustavus Adolphus and a prayer book. A century afterwards, Nov. 30, 1818, Charles XIV. caused a monument to be erected on the spot where he fell.

Charles XIII., King of Sweden; born Oct. 7, 1748; second son of King Adolphus Frederick, and Louisa Ulrica, sister of Frederick the Great of Prussia. His education was directed chiefly to the learning of naval tactics, for which purpose he engaged in several cruises in the Cattegat. The death of Adolphus Frederick recalled him to Sweden, where he took an important part in the revolution of 1772. His brother Gustavus III. appointed him governor-general of Stockholm, and Duke of Sundermannland. In 1774 he married Hedwig Elizabeth Charlotte, princess of Holstein-Gottorp. In the war with Russia in 1788 he received the command of the fleet, defeated the Russians in the Gulf of Finland, and, in the most dangerous season of the year, brought back his fleet in safety to the harbor of Carlscrona, after which he was appointed governor-general of Finland. After the murder of Gustavus III. in 1792, he was placed at the head of the regency, and happily for Sweden, preserved the country at peace with all other nations. In 1796 he resigned the government to Gustavus Adolphus IV., who had become of age, and retired as a private man to his castle of Rosersberg. A revolution hurled Gustavus Adolphus IV., in 1809, from the throne, and placed Charles at the head of the State, as administrator of the realm, and some months afterward, June 20, 1809, as King of Sweden, at a very critical period. He had already adopted Prince Christian of Holstein-Sonderburg-Augustenburg as his successor, and after his death, Marshal Bernadotte, who was elected by the Estates, in August, 1810, to take the place of the prince. On him he bestowed his entire confidence. May 27, 1811, he founded the Order of Charles XIII., which is conferred

solely on Freemasons of high degree. June 21, 1816, he acceded to the holy alliance. His prudent conduct in the war between France and Russia in 1812 procured Sweden an indemnification for Finland by the acquisition of Norway, Nov. 4, 1814. He died Feb. 5, 1818.

Charles, Archduke of Austria; third son of the Emperor Leopold II.; born in Florence, Sept. 5, 1771. In his 20th year he distinguished himself in the battles of Jemappes and Neerwinden, in both of which the French republican armies were beaten, and was appointed governor-general of Belgium in 1793. In the campaign the following year victory favored the French under Pichegru, and the Netherlands were lost. He was appointed in 1796 field-marshal of the empire and commander-in-chief of the Austrian army on the Rhine, and after notable victories in the winter of 1797 he captured Kehl, the only position the French occupied in Germany. Meanwhile Bonaparte had finished his conquest of Italy, and was rapidly pushing his way into the heart of Austria. Charles was sent against him; but it was too late. He was compelled to conclude the treaty of Leoben (1797), which was followed by the peace of Campo Formio. After the fruitless congress at Rastadt he again put himself at the head of the Rhine army. In the protracted struggle in the heart of Germany Napoleon's genius was on every occasion triumphant, once only, at Aspern, did Charles snatch a victory from him (May 21, 22, 1809), but the bloody battle of Wagram (July 5, 6) laid Austria at the feet of the French emperor. The military career of Charles closes here. His literary work is comprised in "Principles of Strategy" (1814). He died April 30, 1847.

Charles Edward Stuart, called The Pretender, grandson of James II., King of England, son of James Edward and Clementina, daughter of Prince Sobieski; born in Rome in 1720. The last scion of the royal house of Stuart, from the very cradle he was inspired with an impulse that induced him, at the early age of 22, to attempt the recovery of the throne of his ancestors. Supported by the court of Rome, he went to Paris in 1742, and succeeding in gaining over to his views Louis XV., and an army was on the point of sailing from Dunkirk for England when the English Admiral Norris dispersed the whole French fleet before it had gained the open sea. He now resolved to trust to his own exertions. With borrowed money, and seven trusty officers, he landed, July 28, 1745, at Lochnanuadh, Scotland, and found many adherents, who went over to his party. With this he marched forward, conquered the British troops and caused himself to be proclaimed Regent of England, Scotland and Ireland. His force was now 7,000 strong. With this he advanced, and laid siege to Carlisle, Nov. 15, which, after three days, surrendered, and supplied him with arms.

He now caused his father to be proclaimed King, and himself Regent of England; removed his headquarters to Manchester, and soon found himself within 100 miles of London, where many of his friends awaited his arrival. He was compelled to retire in the beginning of 1746. As a final attempt he risked the battle of Culloden, against the Duke of Cumberland, April 16, 1746, in which his army was defeated and dispersed. Five months later, on Sept. 20, 1746, after much wandering and hardship, he sailed from Scotland, and arrived in France destitute of everything. By the interest of Madame de Pompadour Charles now received an annual pension of 200,000 livres for life; he had also 12,000 doubloons yearly from Spain.

He died Jan. 31, 1788, in the 68th year of his life. His body was carried to Frascati, and entombed in a style worthy of a king. A scepter, crown, and sword, and the escutcheons of England and Scotland adorned his coffin; and his only brother then living, the Cardinal of York, performed the funeral services for "dead King Charles." The Cardinal of York received a pension from Great Britain after 1799, and died in Frascati, July 13, 1807.

Charles Emanuel I., Duke of Savoy, surnamed The Great; born at castle of Rivoli in 1562. He proved his courage in the battles of Monbrun, Vigo, Asti, Chatillon, Ostage,

at the siege of Berne, and on the walls of Suza. He died of apoplexy in Savillon, in 1630.

Charles Martel, son of Pepin Heristal (mayor of the palace under the last kings of the Merovingian dynasty). His father had governed under the weak Kings of France with so much justice, and so much to the satisfaction of the people that he was enabled to make his office hereditary in his family. Childeric II., King of the Franks, refusing to acknowledge Charles Martel as mayor of the palace, the latter deposed him, and set Clothaire IV. in his place. After the death of Clothaire he restored Childeric, and subsequently placed Thierri on the throne, showing how absolute was the control of the mayor, and that the royal dignity was a mere phantom. Charles Martel rendered his reign famous by the great victory which he gained in October, 732, over the Saracens, near Tours, from which he acquired the name Martel, signifying hammer. He died in 741.

Charleston, a city, port of entry, and county-seat of Charleston Co., S. C.; the first city in population and importance in the State, situated at the confluence of the Ashley and Cooper rivers, 7 miles from the ocean. Charleston has one of the safest and most commodious harbors in the United States. It is defended by Forts Sumter and Moultrie. Area, 5½ square miles. Pop. (1910) 58,833.

Charleston was founded in 1670, receiving from France about 1685 a large influx of Protestant refugees. It was taken by the British in 1780, but evacuated in 1782. It was here that the first open movement was made in favor of secession. In 1860 and 1861 the harbor was the scene of several conflicts, and Fort Sumter was reduced to ruins. In August, 1863, the city was bombarded, and in February, 1865, after 565 days of continuous military operations, during which period 2,550 shells reached the city, it was occupied by Federal troops. On Aug. 31 and Sept. 1, 1886, the city was partially destroyed by an earthquake. Earth tremblings continued for some months thereafter, but with indomitable energy the city was soon restored to its former beauty and prosperity.

Charleston, city and capital of Kanawha county and of the State of West Virginia; at junction of the Great Kanawha and Elk rivers and on the Chesapeake & Ohio and other railroads; 130 miles S. W. of Wheeling. It is an important commercial center, with steamer connections with all Ohio and Mississippi river ports; is in a bituminous coal, salt, iron, petroleum, and natural gas section; has shipyards and railroad repair shops; and manufactures fire-brick, wire nails, engines, boilers, and woolen goods. Pop. (1910) 22,996.

Charlestown, a former city and seaport of Massachusetts, since 1873 part of the municipality of Boston, with which it is connected by bridges across Charles river. Bunker Hill is in its limits, and there is, on the site, a commemorative monument 220 feet high, the cornerstone of which was laid by Lafayette in 1821.

Charlestown, a village and county-seat of Jefferson Co., W. Va., noted as being the place of the capture, trial, and execution (Dec. 2, 1859), of John Brown. Pop. (1910) 22,996.

Charlotte, a city and county-seat of Mecklenburg Co., N. C.; the center of the Southern cotton mill industry, having 100 mills within a radius of 200 miles. The Mecklenburg Declaration of Independence was adopted here in 1775. Pop. (1910) 34,014.

Charlottenburg, a town of Prussia, about 3 miles from Berlin, with a royal palace and park, also a number of industrial and manufacturing establishments. Pop. (1900) 189,290.

Charlottesville, a city and county-seat of Albermarle Co., Va. It is the seat of the University of Virginia and of Monticello, the home of Thomas Jefferson. Pop. (1910) 6,765.

Charlottetown, a city and capital of Prince Edward Island, Canada, on Hillsborough bay, at the confluence of three rivers, and on the Prince Edward Island railway. Pop. 12,000.

Charlton, John, an English artist, born in Bamborough, Northumberland, June 28, 1849. Died in 1893.

Charlton, John, a Canadian statesman, born near Caledonia, N. Y., Feb. 3, 1829. He removed to

Canada in 1849, and entered business and political life. He was elected as a Liberal to the Canadian House of Commons in 1872, and has held his seat ever since. He is best known as a promoter of moral legislation.

Charm, anything believed to possess some occult or supernatural power, such as an amulet, spell, etc.

Charnel-house, a chamber or building under or near churches where the bones of the dead are deposited.

Charon, the ferryman who conducted the souls of the departed in a boat across the Stygian lake to the infernal regions.

Charpoy, in the East Indies, a small, portable bed, consisting of a wooden frame resting on four legs, with bands across to support the bedding.

Charqui, jerked beef, the Chilian name of which the English term is a corruption.

Chart, a representation of a portion of the earth's surface projected on a plane. The term is commonly restricted to those intended for navigator's use, on which merely outlines of coasts, islands, etc., are represented. A globular chart is a chart constructed on a globular projection. A Mercator's chart is a chart on the projection of Mercator. A plane chart is a representation of some part of the superficies of the earth, in which the spherical form is disregarded, the meridians drawn parallel, the parallels of latitude at equal distances, and the degrees of latitude and longitude equal. A selengraphical chart is a chart representing the surface of the moon; and a topographical chart is a chart of a particular place, or of a small part of the earth.

Charter, a written instrument, executed with usual forms, given as evidence of a grant, contract, or other important transacation between man and man.

Charter-house a celebrated school and charitable foundation in London, England.

Charter Oak, a tree which formerly stood in Hartford, Conn., in the hollow trunk of which the colonial charter is said to have been hidden. The story is that when Governor Andros went to Hartford in 1687 to demand the surrender of the charter, the debate in the Assembly over his demand was prolonged until darkness set in, when the lights were suddenly extinguished, and a patriot, Captain Wadsworth, escaped with the document and hid it in the oak. The venerable tree was preserved with great care until 1856, when it was blown down in a storm.

Charter Party, an agreement in writing concerning the hire of a vessel and the freight, containing the name and burden of the vessel, the names of the owner, master, and freighter, and every other particular as to rate of freight, duration of voyage, time of loading and unloading, etc.

Chartist, a name given to a political party in England whose views were embodied in a document called the "People's Charter." The chief points were, universal suffrage, vote by ballot, annual parliaments, payment of members, equal electoral divisions, and the abolition of property qualification for members.

Chartres, Robert Philippe Louis Eugene Ferdinand D'Orleans (Duc de) grandson of Louis Philippe, King of the French, was born in Paris, Nov. 9, 1840. When only two years old he lost his father, and six years later the Revolution drove him, along with his family, into exile. He joined the Union army in the first campaign of the American Civil War in 1862. Died in 1910.

Chartreuse, La Grande, a famous monastery of France, in the department of Isere, 14 miles N. of Grenoble, among lofty mountains, at an elevation of 3,281 feet above sea-level. The access to it is very difficult. It was built in 1084, but having been several times pillaged and burnt down, the present building was erected after 1676.

Charybdis, an eddy or whirlpool in the Straits of Messina, celebrated in ancient times, and regarded as the more dangerous to navigators because in endeavoring to escape it they ran the risk of being wrecked upon Scylla, a rock opposite to it.

Chase, Ann, an American patriot; born in Ireland in 1809; came to the United States in 1818; settled in New

Orleans in 1832; removed to Tampico, Mex., in the following year, where she met and married Franklin Chase, United States consul, in 1836. During the War with Mexico, in the absence of her husband, she remained at the consulate to protect the American records. On one occasion a mob attempted to pull down the American flag that floated over the consulate, but she protected it with drawn revolver, and declared that the flag should not be touched except over her dead body. Later through her efforts the city of Tampico was taken. She died in Brooklyn, N. Y., Dec. 24, 1874.

Chase, Salmon Portland, an American jurist; born in Cornish, N. H., Jan. 13, 1808; educated at Windsor, Vt., in his uncle's family at Columbus, O., and in Dartmouth College; taught school in Washington, while studying law with William Wirt; opened law practice in Cincinnati. In 1846 he argued the Fugitive Slave Law with William H. Seward, in a celebrated case, and his support of the anti-slavery cause soon made him a leader of the Free Soil and Republican parties. In 1849 he was elected to the United States Senate; in 1855 Governor of Ohio; in 1860 was a prominent candidate for the Republican presidential nomination; appointed Secretary of the Treasury by President Lincoln, in 1861, and in 1864 became Chief-Justice, in which office he presided at the impeachment trial of President Johnson. He died in New York city, May 7, 1873.

Chase, Samuel, one of the signers of the American Declaration of Independence; born in Somerset Co., Md., April 17, 1741. He was admitted to the bar at the age of 20. Having become a member of the colonial legislature, he distinguished himself by his bold opposition to the royal governor. He took the lead in denouncing and resisting the famous Stamp Act. His revolutionary spirit placed him at the head of the active adversaries of the British government in his State. The Maryland Convention of June 22, 1774, appointed him to attend the meeting of the General Congress at Philadelphia in September of that year. He was also present at the session of December following, and in the subsequent Congresses during the most critical periods of the Revolutionary War. That of 1776 deputed him on a mission to Canada along with Dr. Franklin, Charles Carroll, of Carrollton, and the Rev. John Carroll, afterward Roman Catholic archbishop of Baltimore. He signed the Declaration of Independence with promptitude. In June, 1783, the legislature of Maryland sent him to London as a commissioner to recover stock of the Bank of England, and large sums of money which belonged the State. In 1791 he accepted the appointment of chief-justice of the General Court of Maryland. Five years afterward President Washington made him an associate judge of the Supreme Court of the United States. He was impeached by the National House of Representatives. The trial of the judge before the Senate is memorable on account of the excitement which it produced, the ability with which he was defended, and the nature of his acquittal. He continued to exercise his judicial functions with the highest reputation till 1811. He died June 19 of that year.

Chase, William Henry, an American military officer; born in Massachusetts in 1798; was graduated at the United States Military Academy. At the outbreak of the Civil War he entered the Confederate army, and was prominent in the seizure of the Pensacola navy yard. He died in Pensacola, Fla., Feb. 8, 1870.

Chase, William Merritt, an American artist, born in Franklin, Ind., Nov. 1, 1849. He studied painting in oil at the National Academy in New York and subsequently in Europe with Piloty. He has made a specialty of portraits and figure pieces.

Chasing, the art of working decorative forms in low-relief in gold, silver, or other metals.

Chassaignac, Charles Louis, an American physician; born in New Orleans, Jan. 5, 1862; was graduated at the Medical Department of the University of Louisiana; and was president and Professor of Genito-Urinary Diseases at the New Orleans Polyclinic in 1902.

Chasseur, a male attendant upon persons of distinction, attired in a military dress, and wearing a sword. It is also the name given by the

French to bodies of light infantry which act as skirmishers and sharpshooters.

Chastellux, Francois Jean, Chevalier de, a French historian; born in Paris in 1734; entered the army in 1749; distinguished himself as colonel in the Seven Years' War, and later served in the American Revolution as major-general under Rochambeau, and gained the friendship of Washington. He died in Paris, Oct. 28, 1788.

Chasuble, the upper garment worn by a Roman Catholic priest during the celebration of mass.

Chatard, Francis Silas Mareau, an American clergyman; born in Baltimore, in 1834. He became rector of the American College in Rome, and in 1878 Bishop of Vincennes, Ind.

Chateaubriand, Francois Auguste, Vicomte de, a French author and politician; born in St. Malo, Brittany, Sept. 4, 1768; died in Paris, July 4, 1848.

Chatham, a town and port of entry in Northumberland county, New Brunswick; on the Miramichi river and the Intercolonial railroad; 82 miles N. W. of Moncton; is the center of a fertile section, with large grain and livestock interests; and has machine shops and pulp and lumber mills. Pop. (1901) 4,868.

Chatham, city, port of entry, and capital of Kent county, Ontario, Canada; on the Thames river and the Canadian Pacific railroad; 67 miles S. W. of London; has a large shipping trade in lumber and farm products; and is principally engaged in manufacturing. Pop. (1901) 9,068.

Chatham, a town, naval arsenal, and seaport of England, county Kent, on the Medway, about 34½ miles by rail from London. The royal dockyard was founded by Queen Elizabeth previous to the sailing of the Armada. It has been greatly enlarged in recent years, and has now capacious docks, in which the heaviest warships can be equipped and sent directly to sea. The town is defended by a strong line of fortifications which also serve as a flank defense for the metropolis. Pop. 40,800.

Chatham, William Pitt, Earl of, one of the most illustrious statesmen of Great Britain; son of Robert Pitt, of Boconnoc, in Cornwall; born Nov. 15, 1708; educated at Eton and Oxford. On quitting the university he became a cornet in the Blues, and in 1735 represented the borough of Old Sarum in the House of Commons, where he attracted universal notice. Pitt uniformly supported the cause of the people. Foreseeing the separation of the American colonies from the mother country if the arbitrary measures then adopted should be continued; he advocated, especially in 1766, a conciliatory policy and the repeal of the Stamp Act. In the same year he was invited to assist in forming a new ministry, in which he took the office of privy-seal. In 1768 he resigned, as he found himself inadequately seconded by his colleagues. In the House of Lords he continued to recommend the abandonment of the coercive measures employed against America, particularly in 1774; but his warning was rejected, and in 1776 the colonies declared themselves independent. On April 7, 1778, though laboring under a severe illness, he repaired to the House, to attack the unjust and impolitic proceedings of the ministers toward the colonies. At the close of his speech he fainted and was conveyed out of the House, and afterward removed to his country-seat at Hayes, in Kent, where he died May 11. The Parliament annexed an annuity of £4,000 to the earldom of Chatham; his debts were paid, and he was honored with a public funeral, and a magnificent monument in Westminster Abbey. Another was erected in 1782 in Guildhall.

Chatham Islands, a small group in the Pacific, lying 360 miles E. of New Zealand, to which they politically belong. Pop. 420.

Chattanooga, city and county-seat of Hamilton Co., Tenn. It is situated on high grounds at the foot of Lookout Mountain, and in the midst of picturesque scenery. It is the site of a National Soldiers' Cemetery, with over 13,000 graves, and the Chattanooga and Chickamauga National Military Park. Chattanooga was settled in 1836, and was originally called Ross's landing. It was incorporated in 1851, and in 1863 was occupied and nearly destroyed by Union forces. It

was the scene of three of the greatest battles of the Civil War: Chickamauga, Missionary Ridge, and Lookout Mountain. Pop. (1899), 29,100; (1900), 32,490; (1910) 44,604.

Chattels, property movable and immovable, not being freehold. The word chattels is originally the same word with cattle, all property being reckoned in early periods by the number of heads of cattle possessed, or their equivalent.

Chatterton, Thomas, an English youth whose genius, eccentricity, and melancholy fate have gained him much celebrity; born in Bristol in 1752, of poor parents. He died of self-administered poison in 1770, when not yet 18 years old. His works were more extensively read as the public became acquainted with the history of his misfortunes. The most remarkable are the poems published under the name of "Rowley," which he composed at the age of 15 years.

Chaucer, Geoffrey, "the father of English poetry"; born in London probably about 1340. He was the son of a vintner named John Chaucer. His most celebrated work, "The Canterbury Tales," was written at different periods between 1373 and 1400. It consists of a series of tales in prose supposed to be told by a company of pilgrims to the shrine of St. Thomas (Becket) at Canterbury in 1386. In its pages we get such pictures of English life and English ways of thought in the 14th century as are found nowhere else. He died in London, Oct. 25, 1400, and was buried in Westminster Abbey.

Chautauqua, a beautiful lake in New York, 18 miles long and 1/3 broad, 726 feet above Lake Erie, from which it is 8 miles distant. On its banks is the village of Chautauqua, the center of a religious and educational movement of large and growing interest. This originated in 1874, when the village was selected as a summer place of meeting for all interested in Sunday-schools and missions. Since then the Chautauqua Literary and Scientific Circle has taken origin here, consisting of a regular and systematic course of reading, extending over four years and entitling the student to a diploma.

Chauveau-Lagarde, Claude Francois, a French advocate; born in Chartres, in 1756. He studied law in his native town and began to practice in Paris shortly before the outbreak of the Revolution. He became celebrated for his eloquent defense of those on trial in the Reign of Terror. He was the advocate of Marie Antoinette at her trial and also of Charlotte Corday. He died in 1841.

Chauvenet, William, an American astronomer and mathematician; born in Milford, Pa., May 24, 1819. He was graduated at Yale and became professor of mathematics and astronomy at the United States Naval Academy in 1845, and professor of astronomy at Washington University, St. Louis, in 1859. In 1862 he became chancellor of the last institution. He died in St. Paul, Minn., Dec. 13, 1870.

Chauvinism, a French word derived from Nicolas Chauvin, a soldier of the French Republic and of the First Empire. His name became a synonym for a passionate admirer of Napoleon, and the word Chauvinism was formed to signify the almost idolatrous respect entertained by many for the First Emperor; and now used for exaggerated devotion.

Chazars, a people of the Finnic stock known in the 7th century on the shores of the Caspian; in the 9th century their kingdom occupied the S. E. of Russia from the Caspian and the Volga to the Dnieper. Their capital was long at Astrakhan, called by them Balandshar. They were singularly tolerant of all religions, Jewish, Christian, and Moslem; and a large part of the nation formally adopted the Jewish faith from Jews who fled from the persecutions of the Emperor Leo. The power of the Chazars was ultimately broken in the 12th century by the Byzantine emperors and the Russians.

Check, or Cheque, a draft or bill on a bank, payable on presentation. A check may be drawn payable to the bearer, or to the order of some one named; the first form is transferable without endorsement and payable to any one who presents it; the second must be endorsed, that is the person in whose favor it is drawn must write his name on the back of it.

Cheese, the curd or caseine of milk, with variable quantities of butter and common salt, pressed into molds and ripened by keeping.

Cheetah, the East Indian name for two species of feline animals, the leopard and the hunting leopard, the latter being much used in India for hunting game.

Chee-foo (properly the name of the European colony of the Chinese town of Yen-Tai), a treaty port on the N. side of the peninsula of Shantung, at the entrance to the Gulf of Pechili, in which it is the only port that remains open throughout the winter. The foreign quarter is in some sense a colony of Shanghai, and, having the best climate of all the treaty ports, it is much resorted to by convalescents. The Chinese town, built on the sandy shore, with exceedingly dirty streets, has fortifications, a signal-station, and about 32,000 inhabitants. The port was the scene of a naval demonstration in 1900, when British and American warships threatened to bombard the forts if their hostile attitude was not abandoned. There were 150 missionaries in the city, whose rescue from peril was thus effected.

Cheh-Chiang, or **Cheh-Kiang,** a maritime province of China proper, of very great commercial importance, containing three treaty ports, Ning-Po, Wan-Chau (Wen-Chow), and Hang-Chau (Hang-Chow), all of which are to be connected with Shanghai by a projected railway. Cheh-Chiang is famed for its native system of education. It contains the great religious and literary center of China, Hang-Chow, where thousands of candidates yearly resort for the public examinations. Hang-Chow is also the capital of the province, which is ruled by a viceroy. Marco Polo visited the province in the 14th century, when it contained beautiful temples, now in ruins. The Italians in 1900 laid claim to part of Cheh-Chiang as a sphere of influence, but failed in their demands. The area of the province is 34,700 square miles; pop. 11,843,000.

Cheironectes, the Frog-fish, a genus, comprising some of those fishes popularly known under the name of anglers. They are most grotesquely and hideously shaped, having the pectoral fins supported like short feet on peduncles, by means of which they can creep over mud or sand when left dry by the receding tide.

Cheirotherium, a name given to a great unknown animal that formed the larger footsteps upon the slabs of the Trias, or upper New Red Sandstone, and which bears a resemblance to the human hand.

Chel-ab-ku-kil, or **Ab-ku-kil-chel,** an Indian priest who lived in Yucatan and flourished in the 15th century. His name is mentioned in almost every Yucatanic legend, and fragments of history composed by him are found in documents of Yucatan and Central American missions.

Chelmsford, Frederic Augustus Thesiger, Lord, born May 21, 1827, an English soldier; served in the Crimea and through the Indian mutiny, and in 1877 was appointed commander of the forces and lieutenant-governor of Cape Colony. He restored Kaffraria to tranquillity, and was given the chief command in the Zulu war of 1879. On his return to England he was made G. C. B. He died April 9, 1905.

Chelsea, a city in Suffolk county, Mass., practically a suburb of Boston; on Chelsea harbor, the Mystic river, and the Boston & Maine railroad; 3 miles from the State house in Boston; is the seat of a United States Naval Hospital, Marine Hospital, and Soldiers' Home; and is chiefly engaged in manufacturing. Pop. (1910) 32,452.

Chelsea, a borough of London, England, on the Thames, opposite Battersea, and chiefly distinguished for containing a royal military hospital, originally commenced by James I. as a theological college, but converted by Charles II. for the reception of sick, maimed, and superannuated soldiers.

Chelyuskin, Cape, (formerly Northeast Cape, and sometimes called Cape Severo), the extreme N. point of Asia, on a peninsula of the same name, which forms the W. arm of the E. half of the Taimyr peninsula. It is named after a Russian officer who led an expedition thus far in 1742, and here succumbed, with his wife, to the fatigues of the journey.

Chemistry, the science treating of the relations and combinations of

atoms, or, that branch of natural science which considers the combination of two or more substances to form a third body with properties unlike either of the components; and the separation from a compound substance of the more simple bodies present in it, each possessing distinct properties. Considering that the steps of the combination and decomposition of substances can never be correctly understood without an intimate knowledge of the properties of substances, it follows that the science of chemistry must take into notice likewise the description of all the simplest as well as of the most complex bodies. Chemistry ranks as one of the arts as well as one of the sciences, and the division of Practical Chemistry comprehends the rules and processes which must be followed and the mechanical means for the prosecution of the art.

Chemnitz, a town of Saxony, at the base of the Erzgebirge, and at the confluence of the Chemnitz river, with three other streams, 51 miles S. S. E. of Leipsic. It is the principal manufacturing town of the kingdom, its industry consisting in weaving cottons, woolens, and silks, and in printing calicoes, chiefly for German consumption. It supplies the world with cheap hosiery, and makes mixed fabrics of wool, cotton, and jute for the markets of Europe and the United States. It has several extensive machine-factories, producing locomotives and other steam-engines, with machinery for flax and wool spinning, weaving, and mining industry. Created a free imperial city as early as 1125, Chemnitz, suffered much during the Thirty Years' War. Pop. (1900) 206,584.

Chemnitz, Martin, a German Protestant theologian; born in the mark of Brandenburg in 1522. Died at Brunswick in 1586.

Chemulpo, Korea, a seaport town (since 1883 a treaty-port), on the W. coast, 25 miles by rail W. S. W. of Seoul, the capital. It was a landing-point for the Japanese occupation of Korea, during the Russo-Japanese Conflict (1904), and witnessed the first fight, in the sinking of the Russian warships, the Variag and Korietz. The imports attain a value of $3,500,000 in some years; the exports $1,500,000. Pop. 41,000; the bulk of the 3,000 foreigners are Japanese.

Cheney, Charles Edward, an American clergyman; born in Canandaigua, N. Y., Feb. 12, 1836. He was ordained a clergyman of the Protestant Episcopal Church in 1858. Becoming rector of Christ Church, Chicago, he incurred censure for heterodoxy and was tried on that charge and deposed from the priesthood. He at once became a leader in the Reformed Episcopal movement, and was consecrated bishop of the new denomination in 1873, a post he has since held.

Cheney, Ednah Dow (Littlehale), an American writer; born in Boston in 1824. She became president of the New England Woman's Club and the Massachusetts Suffrage Association. She died in 1904.

Cheney, John Vance, an American writer, born in Groveland, N. Y., Dec. 29, 1848.

Cheney, Theseus Apoleon, an American historian; born in Leon, N. Y., March 16, 1830. He died in Starkey, N. Y., Aug. 1878.

Chenile, a round fabric or trimming made by uniting with two or more sets of warps, a fine filling or weft. The fabric is then twisted, assuming a cylindrical shape with weft projecting radially from the central line of warps.

Cheops, the name given by Herodotus to the Egyptian despot whom the Egyptians themselves called Khufu. He belonged to the rulers who had for their capital Memphis; lived about 2800–2700 B. C., and built the largest of the pyramids. According to Herodotus he employed 100,000 men on this work constantly for 20 years.

Cherbourg, a strongly fortified arsenal and seaport of France, in the department of La Manche (The Channel), 196 miles W. N. W. of Paris. It is the works by which it has been converted into a great naval fortress that give it its special importance. These altogether have cost $40,000,000, and were chiefly carried out under Napoleon I., Louis Philippe, and Napoleon III. A United States consul is resident at Cherbourg. Pop. 36,326.

Cherbuliez, Victor, a French romancist; born in Geneva, of a noted family of littérateurs, July 19, 1829. He died in Paris, July 1, 1899.

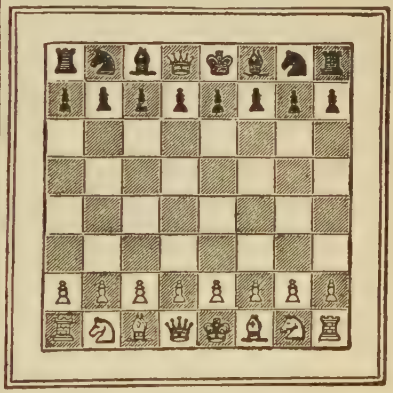
Cherokee Indians, a tribe of the Appalachian family of North American aborigines, which occupied for centuries the country E. and S. of the Alleghanies. After the colonization of North America by the whites, a series of wars broke out at periods ranging from 1759 to 1793; when, by a treaty entered into with the United States, they ceded their territory in the Southeastern States, in consideration of a certain cash payment, and an annual subsidy being continued to them. In 1805 they made further concessions of their lands, and, in 1812, fought bravely on the American side. In 1817-1819 new treaties were made, which resulted in the Cherokees being forced to a reservation of territory afforded them W. of the Mississippi. A remnant of the tribe remained, however, in the original reservation in North Carolina. In Oklahoma they occupy at present an area of 7,861 square miles in the N. E. The Cherokees have a chief, an assistant, and a legislature, all chosen by vote. They live in dwellings, not in wigwams. They have an asylum for orphans, seminaries, and 100 private schools. Their capital is Tahlequah. In the original North Carolina reservation the Cherokees number 1,351. They occupy an area of 98,211 acres.

Cherry, a fruit-tree of the prune or plum tribe, very ornamental and therefore much cultivated in shrubberies. The American wild cherry is a fine large tree, the timber of which is much used by cabinet-makers and others. The fruit is somewhat astringent.

Cherubini, Luigi Zenobio Salvatore, founder of the French Conservatory and instructor of hundreds of eminent musicians; born in Florence, Sept. 1, 1760. In the interval from 1780 to 1788, he composed eleven Italian operas, including "Ifigenia in Aulide," the most successful of the series. He died in Paris, March 15, 1842.

Chesapeake Bay, in Maryland and Virginia, and dividing the former State into two parts, is the largest inlet on the Atlantic coast of the United States, being 200 miles long, and from 4 to 40 broad. Its entrance, 12 miles wide, has on the N. Cape Charles, and on the S. Cape Henry, both promontories being in Virginia.

Chess, the most purely intellectual of all games of skill, the origin of which has been much disputed, but probably arose in India 5,000 years ago, and thence spread through Persia and Arabia, to Europe and America. The game has undergone many modifications during its diffusion throughout the world, but retains marked traces of its Oriental origin. The game is played by two persons on a board which consists of 64 squares, arranged in 8 rows of 8 squares each, alternately black and white. Each



CHESS.

player has two sets of pieces of opposite colors of 16 men each, and of various powers, according to their rank. These sets of men are arrayed opposite each other, and attack, defend, and capture like hostile armies. The superior officers occupying the first row on each side are called pieces, the inferior men, all alike, standing on the row immediately in front of the pieces, are called pawns.

The chessmen being placed, the players begin the engagement by moving alternately; each aiming to gain a numerical superiority by capturing his opponent's men, as well as such advantages of position as may conduce to victory.

Chester, a city and port of entry in Chester county, Pa.; on the Delaware river and the Philadelphia, Wilmington & Baltimore and other railroads; 15 miles S. of Philadelphia; is the oldest city in the State—settled in 1643 by Swedes; has an excellent harbor, one of the most noted ship-building plants in the world, and manufactories of cotton and woolen goods; and is the seat of the Crozer Theological Seminary (Bapt.). Pop. (1910) 38,537.

Chester, capital of the county of Cheshire, England, 16 miles S. E. of Liverpool. St. John's Church is supposed to have been founded by Ethelred in 698. Pop. (1901) 36,281.

Chesterfield, Philip Dormer Stanhope, fourth Earl of, an English statesman and littérateur; born in London, Sept. 22, 1694. He entered public life in 1715, and took an active part in the petty intrigues and party squabbles which make up the parliamentary and court history of the reign of George II. The only writings of this accomplished person that are at all remembered are his "Letters" to his son, remarkable for their ease of style and their knowledge of society, but notoriously reprehensible for the principles of conduct which they inculcate. He died March 24, 1773

Chestnut, a genus of plants, allied to the beech. The common or Spanish chestnut is a stately tree, with large, handsome, serrated, dark-green leaves. The fruit consists of two or more seeds enveloped in a prickly husk. Probably a native of Asia Minor, it has long been naturalized in Western countries. Two American species of chestnuts have edible fruits. The horse-chestnut is quite a different tree from the common chestnut.

Chetah, the hunting leopard of India, a native of Arabia and Asia Minor. It has its specific name (jutata, crested or maned) from a short mane-like crest at the back of the head. When used for hunting it is hooded and placed in a car. When a herd of deer is seen, its keeper places its head in the proper direction and removes its hood. It slips from the car, and, approaching its prey in a stealthy manner, springs on it with several bounds. It is about the size of a large greyhound, has a cat-like head, but a body more like a dog's. A slightly different species inhabits Africa.

Chevalier, Michel, a French economist; born in Limoges, Jan. 13, 1806. He became a councillor of state (1838), professor of political economy in the Collége de France (1840), member of the chamber of deputies (1846), and a member of the Institute (1851). He died in Montpellier, Nov. 28, 1879.

Cheviot, (from the name of a border mountain range in Scotland—the Cheviot hills), (1) a variety of mountain sheep, named from the Cheviot hills, where they abound; (2) a kind of coarse woolen cloth used principally for men's clothing.

Chevreul, Michel Eugéne, a French chemist; born in 1786. He wrote various works on chemistry, dyeing, etc. Died 1889, 103 years old.

Chevy Chase, the name of a celebrated British Border ballad, which is probably founded on some actual encounter which took place between its heroes, Percy and Douglas.

Cheyenne, city, capital of the State of Wyoming, is situated on a plateau 6,075 feet above the sea and contains Fort Russell, a United States military post, and the main repair shops of the Union Pacific railroad. Pop. (1910) 11,320.

Cheyennes, a tribe of American Indians, originally of Algonquin or Dakota stock, at one time settled in Wyoming. To the number of 2,069 (1899), they were settled in Oklahoma on a reservation of 529,682 acres. They are in a backward state of civilization and possess a primitive form of tribal government.

Chiang-hsi, or **Kiang-si,** one of the 18 provinces into which China proper is divided. The area is 72,176 square miles. Pop. (1900, estimated), 29,000,000, the last official census (1879) returning 24,534,118. The province contains the treaty port of Kin-Kiang or Chin-Chiang, on the Yang-tze-Kiang, a town of 53,000 inhabitants. Here are established famous manufactories of porcelain. The province produces tea and silk, besides porcelain.

Chiang-Su, or **Kiang-Su,** an important maritime province of China proper. It has an area of 44,500 square miles (about that of Pennsylvania), and a population estimated in 1900 at 28,000,000, the last official census in 1882 returning 20,905,171. The great commercial importance of this province is denoted by its possession of four treaty ports, Shanghai, Nanking, Su-Chow, and Chin-Kiang. Half the foreign population of China (14,000 in 1900) is established in this province. The capital is Nankiang. Commercially the province is controlled by the English, who have invested largely in railways, mills and government concessions.

Chiapas, a State of the Republic of Mexico, on the Pacific slope, having an area of 27,111 square miles and a population of 310,599. The capital, San Cristobal, is also the principal town. The State is in many parts mountainous, and is also in many parts traversed by noble streams, including the Rio Chiapas. It forms part of the Central American tableland, and has a fine climate, although the whole region is largely clothed in primeval forests.

Chiaro-oscuro, that branch of painting which has for its object the combination and arrangement of the light and shadow of a picture to the best advantage.

Chibchas, or **Muyscas,** a tribe of South American Indians who formerly lived E. of the Magdalena river, occupying the region from its head waters to the Sierra Nevada de Merida. They were partially civilized. They were ruled by women as well as men in the line of succession, and believed in a Supreme Being. They were conquered in a war with the Spaniards in 1537 and their descendants constitute a large part of the present population of Colombia.

Chibouque, a Turkish pipe with a long stem.

Chica, or **Chicha,** the name given in Brazil to a species of Sterculia, the seeds of which are eaten. They are about the size of a pigeon's egg, and have an agreeable taste. Also a red coloring matter used by some tribes of North American Indians to stain the skin. The word is also used as a name of a dance popular among the Spaniards and the South American settlers descended from them.

Chicago, city, port of entry, and county-seat of Cook Co., Ill.; the second city in population in the United States. It is built on the S. W. shore of Lake Michigan, about 18 miles N. of its S. extremity. It is the center of the Western and Lake commerce and has a large water front of 30 miles. A portion of the shore is protected by a massive wall. The city is one of the greatest commercial centers in the world, and is connected by steamship and railroad lines with all parts. The lake shore is protected by breakwaters, forming a splendid harbor at the mouth of the Chicago river. The exterior breakwater is 5,436 feet long, and extends in a N. E. and S. W. direction about one mile from the shore. Piers and breakwaters, built as continuations of the shores of Chicago river, form a harbor of about 455 acres, with an average depth of 16 feet. At the mouth of the Calumet river, in South Chicago, is another harbor 300 feet wide between piers. The Erie canal, terminating at Buffalo, provides a means of commercial communication with the Atlantic

ports. Area 188 square miles; population (1890), 1,099,850; (1900), 1,698,575; (1910) 2,185,283.

The city was built originally on the flat prairie, at an elevation too low to secure proper drainage. When this became apparent the grade of the whole city was raised 7 feet and the streets and buildings brought to the new level. The Chicago river traverses the city, and by its peculiar course divides it into three sections, known as the North, South and West Sides, which are connected by many bridges.

The city owns an extensive water works system. It was found that as the city grew, the old water supply became inadequate, and in order to reach a point in the lake where the water would be uncontaminated by sewage, cribs were built two to four miles out, with a tunnel connecting them with the shore. In 1900 there were five of these cribs, 35 miles of tunnel and 1,802 miles of main. On Jan. 17, 1900, a drainage canal was opened to carry off the city's sewage. It consists of an open drain connecting the Chicago and Des Plaines rivers, and extending thence to the Illinois and Mississippi rivers.

Chicago is surrounded by some of the largest and finest parks and boulevards in the country. The park area is 2,232.1 acres, and the boulevards extend over 66 miles. There are six large parks, Lincoln, Humboldt, Garfield, Douglas, Washington, and Jackson, all connected by boulevards traversing the most beautiful sections of the city and forming a drive system which cannot be excelled. The Sheridan road, which is an extension of the boulevard system, is a superb driveway running N. along the lake shore to Fort Sheridan, 25 miles distant.

Chicago is noted for the number, size and height of its public and business buildings, and for their handsome and complete interior finishings. Among them are: the Auditorium, ten stories high, contains the largest theater and opera house in the world, capable of seating 7,000 persons, a great hotel with 400 guest rooms, and also 136 offices and store rooms, cost $2,000,000; the Art Institute, which ranks among the first art museums in the country; Board of Trade Building; Chicago Stock Exchange, 13 stories high; the Monadnock building, 16 stories high, containing 1,600 offices and costing $2,500,000; the Masonic Temple, 21 stories high and costing $3,500,000; the Public Library, a magnificent structure costing $2,000,000 and containing a library of 250,000 books; the Woman's Temple, 12 stories high, containing 300 offices and costing $1,500,000; the City Hall and County Court and Criminal Court buildings; the Newberry Library, and numbers of handsome club buildings, stores and theaters, besides many elegant and costly private residences.

According to the Federal census of 1900 there were reported 19,202 manufacturing establishments, employing $534,000,689 capital and 262,621 persons; paying $131,065,337 for wages and $538,401,562 for materials; and yielding products of an aggregate value of $888,786,311. The principal industries were wholesale slaughtering and meat packing, foundry and machine shop products, men's clothing, in factories; iron and steel, agricultural implements, railroad cars, printing and publishing, masonry, and malt liquors; bakery products, coffee and spices, furniture, electrical supplies, women's clothing, soap and candles, wholesale slaughtering (without meat packing), linseed oil, planing mill products and confectionery. Chicago is the greatest live stock and grain market in the world, as well as the greatest railroad center.

At the close of the school year 1899–1900, the children of school census age aggregated 656,516; the enrollment in public day schools was 213,134 and in private and parochial schools (largely estimated) 86,614, and the average daily attendance in public day schools was 199,821. For higher education there were 15 public high schools, one public normal school, one endowed normal school, 15 private secondary schools, St. Ignatius College (R. C., opened 1869), and the University of Chicago (1892). The principal private secondary schools are Lewis Institute, Chicago Institute, Seminary of the Sacred Heart, De La Salle Institute, University School, Harvard School, Kirkland School, St. Xavier's Academy, and Kenwood Institute. There were 26 training schools for nurses, mostly connected with hospitals and sanitariums. Chicago has nearly 800 churches. There are about 150

hospitals and other charitable institutions in the city. Among the largest of the former are the Mercy, Cook County, Michael Reese, United States Marine, and the Hahnemann. The benevolent institutions include the Old People's Home, Newsboys' Home, Washington Home for the Reformation of Inebriates, Foundlings' Home, Home for the Friendless, and the Protestant, St. Joseph's and St. Mary's Orphan Asylums.

The site of Chicago was first visited by Joliet and Marquette, French missionaries and explorers, in 1673. In 1685 a fort was built there, commanded by an officer in the Canadian service, and before the end of the 17th century the Jesuits made it a mission post. Indian hostilities prevented further occupation till the United States government established there the frontier post of Fort Dearborn in 1804, which was destroyed by Indians in the War of 1812, but rebuilt in 1816, when a permanent settlement began.

In 1830 the entire population was only 70 persons, but in 1835 a town was organized, and in 1837 it was incorporated as a city with 4,000 inhabitants and an area of 10 miles. On Oct. 8 and 9, 1871, occurred the memorable fire which reduced a large part of the city to ashes, destroyed its entire business center, and swept over an area of more than three square miles, causing a loss of about $190,000,000. Nearly 20,000 buildings were consumed, 100,000 people were made homeless, and 200 lives were lost. Another disastrous fire broke out in 1874 in the heart of the city, which consumed 18 blocks and over 600 homes, with a loss of over $4,000,000. Within a very short time after these disasters Chicago was rebuilt in a much more substantial and elegant manner, and it has since continued its steady march to prosperity. In May, 1886, anarchist riots at the Haymarket resulted in the death of six police officers, the wounding of several others, the conviction of eight rioters, and the execution of four. The World's Columbian Exposition was held in Chicago from May 1 to Oct. 30, 1893. Fully $17,500,000 were expended in the construction of the fair and its operation, and it was visited by 17,000,000 people. In October, 1903, Chicago celebrated the hundredth anniversary of the beginning of settlement there.

On Dec. 30, 1903, the Iroquois Theatre, a new structure, was destroyed by fire and over 600 persons mostly women and children perished.

Judge Ed. F. Dunne was elected mayor, April, 1905, and since then the municipal ownership of street railroads and other public services has been a fruitful source of agitation leading to active reforms.

Chicago Drainage Canal, a canal intended chiefly for carrying off the sewage of Chicago, but which may be used for commercial purposes; begun in September, 1892; completed in January, 1900. The main channel is 29 miles long, extending from Chicago to Lockport on the Illinois river, into which stream it discharges. About 9 miles of the channel is cut through solid rock, with a minimum depth of 22 feet and a width of 160 feet on the bottom in rock, which makes it the largest artificial channel in the world. The length of the waterway from the mouth of the Chicago river to its terminus S. of Joliet is about 42 miles. The cost of the canal was estimated at about $45,000,000.

Chicago, University of, a co-educational (non-sectarian) institution in Chicago, Ill., founded by John D. Rockefeller, dating from Sept. 10, 1890, when the institution was incorporated under the laws of Illinois. A previous institution known as the University of Chicago had gone out of existence, owing to financial difficulties, in 1886. A number of Baptists desired to have a college in Chicago, and succeeded in interesting John D. Rockefeller in the plan. He promised $600,000 toward the establishment of the college if $400,000 more should be raised by June, 1890. This amount was duly raised, and the plan was enlarged in scope so as to include a university instead of a mere college. Further large gifts were made by Mr. Rockefeller and by others, and the doors were opened for instruction Oct. 1, 1892.

Chichen-Itza, the largest of over 50 ruined towns in the Mexican province of Yucatan, a few miles W. S. W. of Valladolid, with the remains of an ancient Indian city.

Chickadee, the popular name of the black-cap titmouse.

Chickahominy, a river in Virginia, affluent of the James and running parallel to it for many miles from its source N. W. of Richmond. On and near it occurred many of the most important events of McClellan's Peninsular campaign in 1862. The second battle of Cold Harbor under Grant took place in 1864.

Chickamauga, Battle of, an engagement fought Sept. 19–20, 1863, between the Union army under Rosecrans and the Confederate under Bragg and Longstreet. Out of about 100,000 troops engaged, some 30,000 were reported as killed, wounded and missing — a very bloody and practically drawn battle, though claimed as a Confederate victory, and causing the replacement of Rosecrans by Grant. But for the splendid stand made by General George H. Thomas it would have been a Union defeat.

Chickasaw, an Indian tribe, occupying a reservation near the center of Oklahoma in Grady county. The tribe has a chief and a legislature chosen by popular vote.

Chickasha, city and capital of Grady county, Okl.; near the Wichita river and on the Chicago, Rock Island & Pacific and other railroads; 39 miles S. of Oklahoma City; was the chief town of the Chickasaw Nation in the former Indian Territory; is largely engaged in mercantile and farming interests; and has lumber, flour, cotton, and cotton-seed oil mills, and brick yards. Pop. (1910) 10,320.

Chicopee, a city in Hampden county, Mass.; on the Chicopee and Connecticut rivers and the Boston & Maine railroad; 4 miles N. of Springfield; is an important manufacturing city, with fine water power from Chicopee Falls; chief products, cotton and brass goods. Pop. (1910), 25,401.

Chief, in heraldry, the upper part of the field cut off by a horizontal line. It generally occupied one-third of the area of the shield.

Chief Justice, the title of the chief member of the United States Supreme Court, also of the judges holding similar rank in some of the States. In Canada it is the title of the leading judge of the Dominion and Provincial Supreme Courts, and in England the presiding judge in the Queen's Bench Division of the High Court of Justice is called a "Lord Chief Justice."

The following is a list of the persons appointed as Chief-Justice of the Supreme Court of the United States from its establishment:

John Jay, of New York.
Oliver Ellsworth, of Connecticut.
John Marshall, of Virginia.
Roger Brooke Taney, of Maryland.
Salmon Portland Chase, of Ohio.
Morrison R. Waite, of Ohio.
Melville W. Fuller, of Illinois.
Edward D. White, of Louisiana.

Chigi, a princely Italian family, whose founder was Agostino Chigi (died 1512), of Siena, who in Rome became banker to the popes, and was noted for his pomp and encouragement of art.

CHICORY.

Chignecto Bay, an inlet at the head of the Bay of Fundy, in British North America. It separates Nova Scotia from New Brunswick, is 30 miles long and 8 broad, and has an isthmus of only 14 miles in width between it and Northumberland Strait, in the Gulf of St. Lawrence. In October, 1888, work was begun on the

construction of a ship railway across the neck of land connecting Nova Scotia with the main land of Canada. The promoters had spent nearly $4,000,000 on the work, when in 1890 a financial depression in London prevented them from obtaining further capital. In March, 1901, the undertaking was revived.

Chignon, (1) the back of the neck, (2) back hair; the back hair of women, a protuberance of artificial hair on the hinder part of the head, worn by women about 1866–1875.

Chigo, Chigre, or **Jigger,** a West Indian and South American species of apterous insect of the flea kind, which penetrates the skin and breeds there, unless speedily eradicated.

Chihuahua, the largest State of Mexico; bounded on the N. and N. E. by New Mexico and Texas; area, 87,802 square miles; pop. (1895), 262,771. The State is better adapted for stock-raising than for agriculture; the fertile districts are mainly confined to the valleys and river courses. Cotton is grown in the S. The silver mines were for centuries among the richest in Mexico, and mining is still the chief industry. The capital, Chihuahua, 225 miles S. of El Paso, rises like an oasis in the desert, among roses and orange groves. Pop. about 20,000.

Chilblain, a sore on the hands or feet produced by cold, especially if the parts were previously much heated.

Child, Lydia Maria, an American prose-writer; born in Medford, Mass., Feb. 11, 1802. She was an ardent abolitionist, and published the first book written on that subject, entitled "Appeal for that class of Americans called African." Dr. Channing went over to Roxbury to thank her for it. She died in Wayland, Mass., Oct. 20, 1880.

Children, Societies for the Prevention of Cruelty to, organizations that had their origin in New York City, and have since been adopted in most American and many European cities.

Children's Crusade, The, a singular movement in 1212, preached in France by Stephen, a peasant boy, and in Germany the same year by Nicholas, also a peasant boy. Some 90,000 children left their mothers and schoolmasters in the spring "to rescue the Holy Land from the infidels." Part perished by shipwreck and the rest were sold into slavery.

Childs, George William, an American philanthropist and publisher; born in Baltimore, Md., May 22, 1829. He published the Philadelphia "Public Ledger," 1864–1894. He assisted in establishing a home for printers at Colorado Springs. He died in Philadelphia, Feb. 3, 1894.

Chile, a Republic of South America, bounded on the N. by Peru, E. by Bolivia and the Argentine Republic, S. and W. by the Pacific Ocean; area, 307,620 square miles; pop. (according to revised calculation, and omitting 50,000 Indians), 2,712,145; capital Santiago (pop. 296,695).

The climate of Chile is temperate. The temperature is remarkably even and pleasant, and always cool at night. The S. wind blows fiercely during many days of summer, dry and cold; the N. wind brings heat, tempest and rain; other winds are unknown. Central Chile, between lat. 32° and 36°, is fertile. In Southern Chile generally the land is poor, and on account of excessive rain of hardly any value for agriculture, which, indeed, is carried on in a very primitive fashion, but the soil of the valleys, where large herds of cattle graze, is very fertile.

Chile was the first South American State to construct railways. In 1902 there were 2,800 English miles of lines open to traffic, of which the State owned 1,320 miles. The revenue of the State railways in 1902 was 13,259,607 pesos, expenditures, 12,878,248 pesos. The cost of the State lines by recent report amounted to 82,269,660 pesos. A railway system crossing the Andes has 18 miles in Chile and 88 in the Argentine Republic, connecting the Atlantic and Pacific Oceans from Buenos Ayres to Valparaiso. There were 9,832 miles of telegraph lines with 229 offices, through which 1,255,806 telegrams were sent during the year.

The government is that of a republic, the chief magistrate being a President, elected for five years, who is thereafter ineligible to immediate reëlection. The President has a cab-

inet consisting of six members and a Council of State of 11, six of whom are named by Congress. Legislation is conducted by a Chamber of Deputies, chosen by popular vote, and who serve three years, renewable by thirds every three years; and a Senate, members of which are chosen for nine years. For administrative purposes Chile is divided into 23 provinces and 1 territory, and the provinces in turn into departments, sub-delegations and districts. Each province is governed by an intendant, who also acts as governor of the department in which the capital of the province is situated. The departments are governed by governors, the minor divisions by sub-delegates and inspectors. The established religion of Chile is Roman Catholic, but the constitution guarantees freedom of worship. Education receives much attention, but is not compulsory.

The name of Chile is supposed to be derived from an ancient Peruvian word signifying "snow." The N. portion, as far as the river Maule, formed part of the dominions of the Incas of Peru, and the S. was held by the valiant Araucanians. The first European to land in Chile was the Portuguese discoverer Magellan, at Chiloe, in 1520. After the conquest of Peru by Pizarro, an expedition was made to Chile from that country overland, under the leadership of Diego de Almagro, in 1535. This expedition penetrated as far as the Rio Clano, but returned unsuccessful. Another was sent under command of Pedro Valdivia in 1540, which succeeded in annexing the territory as far as the river Maipu. Santiago, the capital, was founded by Valdivia in 1542. During the colonial period the governors of Chile were appointed by the King of Spain, but were subordinate to the viceroys of Peru. In 1810 a revolt against the Spanish power broke out, in which Don Bernardo O'Higgins, son of one of the last viceroys of Peru, but a native of Chile, played a conspicuous part, and finally became the first dictator of the new republic. The conflict between the Spanish troops and the Republican army continued until 1826, when peace was definitely settled and Chile left to govern itself. The first constitutional president was Gen. Blanco Encalada. The government was unsettled till 1830. In 1833 the present constitution was adopted. Revolutions broke out in 1851 and 1859, but since then there has been no serious attempt to overturn the government by force of arms. In 1864 Chile gave Peru very valuable support in her war with Spain. In 1879 Chile declared war against Bolivia on account of an alleged violation of treaty rights, and immediately after against Peru, with which Bolivia was allied. For a time the Peruvian fleet kept the Chilians in check, but in August, 1879, the Peruvian ironclad "Huascar" was captured by the Chilian men-of-war "Cochrane" and "Blanco Encalada," both armor-plated. After this event the success of the Chilians was uninterrupted. Peruvian towns were bombarded, and their other warships captured. Finally Lima was taken by storm on June 21, 1881. The Chilians occupied Lima and Callao until Oct. 30, 1885, when a treaty of peace was signed between Chile and Peru. Up to 1900 no treaty of peace had been signed by Chile and Bolivia; a treaty of indefinite truce having been agreed to in 1884. In 1885 Jose Manuel Balmaceda, representing the Liberal party, was elected President. The hostile factions organized a rebellion and formed a junta, under whose management the forces of Balmaceda were repeatedly defeated. He committed suicide Sept. 19, 1891. In a riot in Valparaiso some United States marines were set upon and wounded. Reparation was demanded and refused, and war between Chile and the United States seemed imminent. Two war vessels were sent to Chile to enforce the demands of the U. S. and an apology and compensation were given. In 1902 the boundary dispute with Argentina, arbitrated by Great Britain, led later to a treaty of continuous peace.

Chi-Li, or **Chih-Li**, one of the 18 provinces into which China proper is divided. It has an area of 58,949 square miles. It is in many respects the most important of the Chinese provinces, containing as it does the imperial capital, Peking, the treaty port of Tien-Tsin, and the only completed line of railway in the Empire. The Great Wall runs across the whole of the N. part of Chi-Li, while on the coast are the forts of Taku, and the

nearest approach to a naval station belonging to the Chinese government. There are Christian missionaries of many denominations throughout the province. No census has been taken since 1879, when the population was returned as 17,937,000. In 1900 the population was estimated at 25,000,000, including a large Manchu element. Chi-Li has valuable coal mines at Kai-Ping, and other mineral resources. The soil is fertile. The provincial capital is Pao-Ting-Fu, 80 miles from Peking.

Chilkat Inlet, the W. arm of Lynn Canal, an inlet in Alaska.

Chilkat, or **Dalton, Pass,** a route in Alaska traversed by miners in reaching the gold fields of the Klondike.

Chilkoot Inlet, the Eastern arm of Lynn Canal, an inlet in Alaska.

Chilkoot Pass, a pass over the mountains in the Northern part of Alaska, traversed by thousands of gold-seekers in the Klondike gold fields excitement in 1897-1898. By way of the Chilkoot Pass is the most direct route to Dawson City, the principal starting point to the Klondike region.

Chillicothe, Ohio, capital of Ross County, 50 miles S. of Columbus, was the capital of Ohio (1800-10). It is an agricultural and industrial centre. Pop. (1910) 14,508.

Chillon, Castle, a fortress of Switzerland, in the canton Vaud, 6 miles S. E. of Vevay. It stands on an isolated rock at the E. end of the Lake of Geneva. It was built in 1238, by Amadeus IV. of Savoy, and was long used as a State prison.

Chiloé, the insular province of Chile; consists of the island of that name on the W. coast, which is 115 miles long, with a maximum breadth of 43 miles, and is separated from the mainland by a narrow strait on the N., and by a gulf 30 miles wide on the E.; and of a number of neighboring islets, mostly uninhabited; total area, 8,590 square miles; population, 77,750, almost all Indians living on the principal island.

Chimborazo, a conical peak of the Andes, in Ecuador, 20,517 feet above the sea, but only about 11,000 above the level of the adjacent Quito valley.

China, or the **Chinese Empire,** a vast territory in Asia, comprehending five great divisions: China Proper or the Eighteen Provinces (Shih-pa-Shang), and its dependencies, Manchuria, Mongolia, Jungaria and East Turkestan, also Tibet, which, however, is practically independent. The whole empire has an area estimated at 4,277,170 square miles; pop. 426,050,000. The dependencies are described under their respective headings, and this article refers to China Proper, ancient Cathay or The Middle Kingdom, the centre of power and population, with an area estimated at 1,532,420 square miles; pop. 407,253,029. It occupies the E. slope of the tablelands of Central Asia, and is almost in the form of a square. Two-thirds of the interior are estimated to be mountainous; the central and northern hills are off-shoots of the Kuen-lun range, while in the southeast extensive chains stretch from the Tibetan highlands to the eastern seaboard. Between these mountain-systems, and almost parallel flow the two great rivers of China, the Hwang-ho, and the Yangtze. Besides these rivers and their numerous tributaries, the most notable are the Se-Kiang in the south, and the Pei-ho in the north. The waterways are the highways of China; joined by a vast network of canals, they form a gigantic system of inland communication, always thronged with craft of every description. The coast-line, an irregular curve of about 2,500 miles, is fringed with islands, the largest of which, Formosa, was ceded to Japan after the war of 1894-5. The greater part of China lies within the temperate zone, but the climate is marked by a great range of temperature, from tropical heat in the south, to arctic conditions in the north, according to seasons. The flora, forestry, and fauna, are allied to the climatic conditions. China is well supplied with minerals, including gold, silver, copper, and iron; there are extensive coalfields, inexhaustible beds of kaolin, or porcelain earth, and salt is abundant. Covering an immense area in the north, is the loess deposit, a brownish-yellow earth of great fertility, wafted thither by the simoons and winds of the ages, from the disintegrating Himalayan plateaux. Agri-

culture is held in veneration; rice as the principal food of the people is the staple crop, but other grains also are grown. The mulberry tree is extensively cultivated for silkworms, while the opium poppy, and the tea-plant, furnish important crops. The chief manufactures are silk, paper, porcelain and cotton goods; the inventiveness of the Chinese is of ancient date, paper-making, printing, gunpowder, etc., having been discovered by them long before they were known to Occidental nations. Besides an enormous domestic trade, a considerable and increasing import and export trade is carried on; tea, raw and manufactured silk being exported, and cotton goods, metals, metal goods, and opium being imported. Thirty-five treaty ports are now open to foreign commerce. The principal cities are, Peking the capital, with about 1,700,000 population, Canton, Tientsin, Han-kau, Nanking, Shanghai, Ningpo, Fu-chau, Amoy, Swatow, and 30 or 40 more, with a population from 800,000 to 1,500,000. In 1903 2,800 miles of railway were open for traffic, and 1,300 miles more were projected; there were nearly 14,000 miles of telegraph lines which are being extended throughout the Empire, Peking is in direct telegraphic and railway communication with Europe. China is being gradually opened up to foreign intercourse through missionary and political influence, but a great part of the country is still unknown to foreigners. The modern development of the export trade, railways, telegraphs, etc., has been due to foreign rivalry for China's trade, and has led to a complication of interests whence have arisen the political catch-phrases, "The Integrity of the Chinese Empire," "The Open Door." Various foreign "spheres of influence," and "concessions," recognized and granted by the Chinese Government, are the Russian, British, and French "spheres of influence," and the American and German "concessions," respectively centred—the Russian in Manchuria, the British at Wei-hai-Wei and in the Kau-lung Peninsula opposite their insular possession, Hongkong; the French at Pakhoi and the southern provinces of Kwang-si, and Yun-nan, the American in Han-kau, Wu-chang, and Canton; and the German at Kiao-chau.

Ethnologically the Chinese belong to the Mongolian race, with the characteristic conformation of the head and face, tawny skin, black and lank hair (which as a sign of subjection to their Tartar conquerors they wear in the form of a queue or "pig-tail"), oblique eyes, high-cheek bones, and monosyllabic language. They are peaceable and domesticated; capable of a high degree of organization and local self-government, thrifty, sober, industrious, literary but unimaginative, and thoroughly imbued with a practical, commercial spirit. The principle of filial piety, and ancestral worship form the basis of Chinese society. Vacillation, duplicity, and insincerity, largely the result of excessive politeness and the desire to please, gambling, and opium smoking, are among their vicious traits. Education is general, and is largely fostered by the Chinese executive system which is based on those noteworthy competitive examinations, which are intended to sift out from the millions of educated Chinese, the best and ablest for the public service. Many young men of the higher classes are sent to the United States and Europe for instruction in English and the sciences. In 1898 an "Imperial University of China" was established by imperial decree. Dr. William A. P. Martin, an American missionary and educator, was appointed first president of this institution, and three of its professors are from the United States.

The Confucian, the Buddhist, and the Taoist, are the chief forms of religion; Confucianism and Taoism are indigenous, but Buddhism was introduced from India. Confucianism, the basis of their social and political systems, has been professed by all their greatest men, and is still the sole belief of the educated classes.

For many years the Empress Dowager ruled the empire as regent or as practical empress. She died November 15, 1908, the Emperor Kuan Hgsu having died November 9. Pu-Yi, a child emperor two years old, succeeded, the government being placed in the hands of a regent. The provincial governor or imperial delegate possesses the power of life or death, and under

him are the superintendent of provincial finances, the provincial criminal judge, and the provincial educational examiner; each communicates through the governor with his especial board in Peking. China has (on paper) an enormous army, each of the 18 provinces being supposed to provide a military force or corps of 8,000 to about 68,000 men, and aggregating from 540,000 to 660,000, known as the Ying Ping or National Army, and called also the Green Flags and the Five Camps—five being the unit of sub-division. The élite of the army is the Shen-Che-Yeng (Black Flags), the foreign-drilled Tientsin Army corps, about 35,000 strong, and the Pa-ki or Eight Banners containing about 300,000 Manchu warrior-descendants. Since the Chino-Japanese War (1894-95), there is no effective Chinese fleet, although a few swift cruisers have been added to the Chen-Hai and the Kang-Chi which alone remained of the Pei-Yang squadron. The imperial revenue is derived from land and property taxes, customs, and excise, and is said to amount to $250,000,000, half of which is paid in kind. Prior to the Boxer troubles (1900-1901), the external debt amounted to about $270,000,000; to this was added in Oct. 1901 the indemnity of $375,000,000 demanded by the allies.

China's authentic history begins with the Chow dynasty founded by Woo-wang, which lasted from 1100 B. C. to 258 B. C. Confucius was born under Ling-wang of this dynasty about 550 B. C. Chow-siang, the founder of the Tsin dynasty, from which China takes its name, overcame all rivals, and died in 251 B. C. Che-Hoang-ti his great-grandson was the first to assume the title of "Hoang" (emperor); during his reign, in 214 B. C., the great wall was begun as a protection against marauding Tartars.

The Mongols under Genghis Khan and his son Ogdai conquered China in the 13th century, and in 1259 Kublai Khan, a nephew, ascended the throne and founded the Mongol dynasty. In the 13th century Marco Polo, the Venetian traveler visited China, and published in Europe the earliest authentic account of the country. In 1368 the native Ming dynasty in the person of Hungwu gained the ascendency, which it retained until replaced in 1618 by the present Manchu dynasty, in the person of Tungchi. Diplomatic connections with Occidental nations did not commence until the British embassy of Lord Macartney arrived at Peking in 1792, and it was not until after the war with Great Britain in 1840, occasioned by the deplorable imposition of the opium traffic on China, that commercial treaties opened the country to foreign trade. The first treaty with the United States was negotiated by Caleb Cushing in 1844. War with Great Britain again occurred in 1856 over the Chinese seizure of a Hongkong vessel, France joining in, to secure better protection for missionaries and trade. From 1850 to 1865 southern China was disturbed by the Taiping Rebellion. In 1894-95 occurred the war with Japan over Korea, which resulted in a series of brilliant land and naval victories for Japan, and the payment of a large indemnity by China. In 1898 Russia and Germany acquired Chinese concessions of land. In 1900 occurred the Boxer troubles, when a belligerent section of the natives exasperated by the continued encroachments of the "foreign devils" and "barbarians," murdered the German ambassador, and besieged the foreign legations in Peking for two months until relieved by the allied forces of Russia, Germany, Gt. Britain, the U. S., and Japan. Early in 1905 there arose a widespread demand for radical reforms in administrative methods, and an ensuing period of official temporizing led to a formidable revolution. The throne promised an early constitutional government; provincial assemblies were authorized; a National Assembly was convened on Oct. 2, 1910; and a Parliament of two houses was pledged in three years' time. Meanwhile the revolution spread; Mongolia declared its independence; a provisional republic was founded in Shanghai; the imperial Manchu dynasty abdicated on Feb. 12, 1912; and on Feb. 15, following, the National Assembly elected Yuan-Shih-kai president of the Chinese republic.

China Sea, that part of the North Pacific Ocean bounded N. by Formosa, N. W. by China, W. by Anam and

the Malay peninsula, S. E. by Borneo, and E. by the Philippines. It is called also the SOUTH SEA. Manila, Hongkong, and Singapore, are on its shores.

Chinchilla, a genus of South American herbivorous rodents very closely allied to the rabbit, which they resemble in the general shape of the body,

CHINCHILLA.

in the limbs being longer behind than before, and by the nature of the fur, which is more woolly than silky.

Chinchon, a town of Spain, 25 miles S. E. of Madrid. After a Countess of Chinchon, wife of the Governor of Peru in 1638, Peruvian bark was named "Chinchona," now habitually misspelled "Cinchona."

Chinese-fire, a pyrotechnic composition, consisting of gunpowder, 16; niter, 8; charcoal, 3; sulphur, 3; cast-iron borings (small), 10.

Chinese Lantern, a lantern made of thin paper, usually variously colored and much used in illuminations.

Chinese Swallows' Nests, curious productions, which sell at a high price in China, though they have no special points of recommendation beyond many other gelatinous ingredients in soups. They are formed of a secretion from the mouth of the bird itself.

Chinese Tartary, an old name of Turkestan.

Ching, a Chinese prince; born in Peking about 1840. He is related to the Chinese imperial family. He was at the head of the Tsung-li-Yamen, but was deposed in 1900 for his efforts to protect the legations in Peking, during which he attacked the Boxers.

Ching-hai, or **Chin-hai,** a seaport of China, in the province of Cheh-Chiang (Cheh-Kiang), 9 miles from the treaty port of Ning-Po.

Chin-Kiang, or **Chin-Chiang,** a city of China in the province of Kiang-Su (or Chiang-Su), about 490 miles S. of Tien-Tsin. Chin-Kiang was declared a treaty port in 1861.

Chinon, an antique town in the French department of Indre-et-Loire. Crowning a lofty rock are the ruins of its vast old castle, the "French Windsor" of the Plantagenets, the deathplace of Henry II.; and later the residence of several French sovereigns, where, in 1429, Joan of Arc revealed her mission to the Dauphin.

Chinooks, a tribe of Indians, now nearly extinct, on the Columbia river, or in Oregon.

Chinook Wind, a strong, dry west or south wind in Wyoming and Montana, which descends from the mountains, like the hot winds of Kansas, and the Föhn winds of Switzerland.

Chintz, a cotton cloth gaily printed with designs of flowers, etc., in five or six different colors. It was a favorite in the time of Queen Anne, long before cotton prints became cheap. The name has since been applied to goods lacking the graceful and artistic character of the genuine article.

Chios, (now called by the natives Chio, Italianized into Scio), one of the most beautiful and fertile islands in the Ægean sea, belonging to Turkey, 7 miles off the coast of Asia Minor, at the entrance to the Gulf of Smyrna. It has an area of 320 square miles, and a population of about 70,000, almost all Greeks. Earthquakes are, however, not rare, and one in 1881 caused the death of 3,558 persons, and the destruction of property to the value of over $15,000,000.

Chipmunk, a small animal much like a squirrel, known as the striped squirrel.

Chippendale, Thomas, an English cabinet-maker; went to London from Worcestershire before 1750. The style of furniture named from him was less heavy and severe than that of his successors, and was rather elaborate, delicate and baroque, with classical tendencies.

Chippeways, or **Ojibways,** a tribe of North American Indians in the United States and Canada. They are distributed in bands round both sides of the basin of Lake Superior.

where they once owned vast tracts. They are of the Algonquin stock, tall, active and well formed, subsist chiefly by hunting and fishing and number about 18,000.

Chiquimula, a small town in the E. of Guatemala, which gives name to a province and to the Isthmus of Chiquimula.

Chiquinquira, the largest town in the department of Boyaca, Colombia, was an Indian place of pilgrimage before the conquest, and the Spaniards having found here a miraculous image of the Virgin, the church where this is preserved is now visited by some 60,000 pilgrims annually.

Chiquitos, or **Naquinoneis** ("men"), an Indian tribe of Bolivia, dwelling between the Paraguay and the Madeira.

Chiriqui, the westernmost administrative division of the Republic of Panama, adjoining Costa Rica; area, 6,500 square miles; pop. 43,000. It is well wooded, and has rich pasturage, especially on the Atlantic coast, where the climate is very moist.

Chiron, a centaur, half man and half horse, son of Philyra and Saturn, was famous for his knowledge of music, medicine and shooting. He taught mankind the use of plants and medicinal herbs, and he instructed in all the polite arts, the greatest heroes of his age, Achilles, Æsculapius, Hercules, etc.

Chisholm, William Wallace, Republican politician and Unionist, born in Morgan County, Ga., 1830; was fatally shot by a mob in 1877.

Chisleu, the ninth month of the Jewish year, commencing with the new moon in December or the latter part of November. The modern Jews fast on the sixth day of this month.

Chitral, a small mountain State in the upper basin of the Kashkar or Kunar, a tributary of the Kabul river, and bordering on Kashmir and Kafiristan, is 5,200 feet above sea-level. The people are Moslems, but mostly speak a language close akin to that of their pagan neighbors in Kafiristan.

Chittenden, Russel Henry, an American educator; born in New Haven, Conn., Feb. 18, 1856. He became Professor of Physiological Chemistry at Yale in 1882, and since 1896 has been director of the Sheffield Scientific School.

Chittenden, Thomas, an American colonial and State governor; born in East Guilford, Conn., Jan. 6, 1730. He was one of the pioneers of Vermont, and acquired a fortune from his lands. In 1778 he became governor of Vermont, before its formal separation from New York was recognized. During the Revolutionary War the British and the Continental Congress received overtures from him, his terms being recognition of Vermont's statehood. He retired from public life in 1796 and died in Williston, Vt., Aug. 24, 1797.

Chittim, or **Kittim,** in the Old Testament, is usually identified with Cyprus.

Chitty, Joseph, an English lawyer and legal writer; born in 1776. He achieved eminence as a barrister in London, but his celebrity rests mainly upon his legal works. He died in London, Feb. 17, 1843.

Chiusi, a town of Central Italy, 102 miles N. N. W. of Rome. It is in connection with the discovery of Etruscan antiquities that the place is chiefly heard of. During the 19th century immense quantities of these remains were found in the neighborhood in the grottoes that served the ancient Etruscans as tombs.

Chivalry, the uses and customs pertaining to the order of knighthood. Chivalry declined and fell with the feudal system, of which it was a normal growth. The institution of the military orders, the Knights Templar, the Knights of St. John and the Teutonic Knights was an interesting development of chivalry.

Chladni, Ernst Florens Freidrich, a German physicist; born in Wittenberg, Nov. 30, 1756. Died in Breslau, April 4, 1827.

Chlopicki, Joseph, a Polish general; born in Galicia, March 24, 1772. He served under Kosciuszko during the first revolt of the Poles (1794), and then engaged in Napoleon's service, under whom he took part in the battles of Eylau, Friedland, Smolensk and Moskowa. On the outbreak of the Polish revolution of 1830 he was elected Dictator, but soon resigned that office, fought at Grochow and Wavre, and after the cessation of hostilities

retired into private life. He died in Cracow, Sept. 30, 1854.

Chloral, produced by the action of chlorine on alcohol, since the discovery of its anæsthetic effects by Dr. O. Liebrich in 1869, is extensively employed medicinally in the form of chloral hydrate.

Chlorine, a gas. From its wide affinities and great activity in the free state, chlorine is one of the most useful and powerful instruments with which the chemist deals. By it such metals as platinum and gold are attacked and made soluble in water, while its power over organic substances is very great.

Chlorine is largely consumed in the arts. Thus it is used in the manufacture of potassic chlorate for making lucifer matches; in the conversion of the yellow to the red prussiate of potash, in the preparation of chloride of sulphur for the vulcanizing process, and above all as a bleaching and disinfecting agent.

Chloroform, is formed by the action of the sun's rays on a mixture of chlorine and marsh gas; also by the action of caustic potash on chloral or chloracetic acid, or by the action of nascent hydrogen on tetrachloride of carbon. It is prepared on a large scale by distilling water and alcohol with bleaching powder. Chloroform is a colorless, mobile, heavy, ethereal liquid.

The vapor of chloroform, when inhaled for some time, produces a temporary insensibility to pain. Inhaled in small doses it produces pleasurable inebriation, followed by drowsiness; in larger doses it causes loss of voluntary motion, suspension of mental faculties, with slight contraction of the muscles and rigidity of the limbs; then if the inhalation is continued a complete relaxation of the voluntary muscles takes place, but if carried too far it causes dangerous symptoms of apnœa or of syncope, and the patient must be restored by artificial respiration.

Chlorosis, one of the most formidable diseases to which plants are liable, and often admitting of no remedy. Many forms of the disease exist, of which those of clover, onions, cucumbers and melons are best known.

In medical practice an affection in which the skin of the body, and especially that of the face, assumes a peculiar greenish cast, and hence is popularly known as green-sickness.

Choate, Joseph Hodges, an American diplomatist; born in Salem, Mass., Jan. 24, 1832. He is a descendant of John Choate, who came from England in 1640. He was graduated at Harvard College in 1852; admitted to the bar in Boston in 1855; removed in 1856 to New York, where he became a partner in the law firm of Evarts, Choate & Beaman. His ability as a lawyer and public speaker soon gave him a reputation which has seldom been equaled among the leaders of the New York bar. From Jan., 1899, until his retirement, May, 1905, he was U. S. Ambassador to Gt. Britain.

Choate, Rufus, an American lawyer; born in Essex, Mass., Oct. 1, 1799; was graduated at Dartmouth College in 1819; taught there for one year; was admitted to the bar and began practice in Danvers in 1823; removed to Salem in 1828; was a member of Congress in 1830–1834, resigning in the latter year; removed to Boston; was successor of Daniel Webster in the United States Senate in 1841–1845; returned to Boston in the latter year and resumed practice. He traveled in Europe in 1850; was a delegate to the Whig National Convention in Baltimore in 1852. After Webster's death Mr. Choate was acknowledged the leader of the Massachusetts bar. He made many political speeches, the most brilliant, while a United States Senator, including those on the Oregon Boundary, the Tariff, the Fiscal Bank Bill, the Smithsonian Institution, and the Annexation of Texas. He gave much attention to literary studies. He died in Halifax, N. S., July 13, 1858.

Chocolate, a preparation of the seeds of Theobroma Cacao, made by grinding the seeds mixed with water to a very fine paste. It was introduced from America to Europe by the Spaniards. It is highly nutritious, containing a large proportion of nitrogenous flesh-forming material. On this account it is used as portable food by many mountaineers. In the solid form, mixed with much sugar, cream, and various confections, Chocolate is largely used as a sweetmeat, and is introduced in pastry.

Choctaws, an Indian tribe that now occupies a reservation in the S. E. portion of Oklahoma; area, 10,450 square miles. The chief and legislature are chosen by popular vote. Grain, cotton and fruit are raised by the tribe, which maintains schools and orphan homes. They number about 18,456. A number of denominations maintain mission schools. The tribe's trust funds aggregate over $549,500. There are numerous Choctaw physicians, lawyers and clergymen, but the tribe is not as civilized as some others.

Choir, an organized body of singers in church services. In ecclesiastical architecture the choir is the part of the building in a cathedral or collegiate chapel set apart for the performance of the ordinary daily service.

Choke-cherry, a species of cherry, so called from the astringent nature of the fruit; it is indigenous to North America, the true choke-cherry being the Prunus Virginiana; the fruit is small and hangs in racemes.

Choke-damp, the name given by miners to the fire-damp resulting from an explosion of gas in mines.

Choking, the effect caused by a morsel of food, liquid, or other obstruction, passing into the larnyx or upper opening of the windpipe, instead of the gullett. It results generally from a breath being suddenly drawn in coughing or laughing, while food or fluid is in the mouth; and a violent fit of coughing follows till the offending substance is expelled from the windpipe. Sometimes, however, a larger mass is drawn into the opening of the windpipe, completely blocking it and arresting respiration altogether. This condition is one of extreme danger and the sufferer, if not at once relieved, will certainly and quickly die of suffocation.

Cholera, a Greek term now universally employed in medicine as indicating one of two or three forms of disease, characterized by vomiting and purging, followed by great prostration of strength, amounting in severe cases to fatal collapse. The milder forms of Cholera occur almost every summer and autumn, even in temperate latitudes, while the more devastating and fatal forms of the disease are generally supposed to originate only in tropical countries. The very fatal forms of the disease are commonly called Asiatic, Oriental, or Epidemic Cholera.

What is called Cholera morbus is a bilious disease, long known in most countries, and is characterized by copious vomiting and purging, with violent griping, cramps of the muscles of the abdomen and lower extremities, and great depression of strength. It is the most prevalent at the end of summer or the beginning of autumn. Cholera infantum (infants' cholera) is the name sometimes given to a severe and dangerous diarrhœa to which infants are liable in hot climates or in the hot season.

Cholos, in Peru, the name for those who are partly of white, partly of Indian parentage, the most numerous class of the community.

Cholula, a decayed town of the Mexican State of Puebla. Cortes found in it 40,000 houses and 400 temples, including the great Teocalli. Now the place only contains 9,000 inhabitants. It was a great center of the Aztec religion.

Chonos Archipelago, a group of islands lying off the W. coast of Patagonia. Two are large, but they are all barren and scantily inhabited.

Chopin, Frédéric Francois, a Russian pianist and musical composer, of French extraction; born in Warsaw, March 1, 1809; died Oct. 17, 1894 in Paris, where the best part of his life was spent. His characteristic pianoforte compositions include Nocturnes, Polonaises, Valses, and Preludes.

Chop-sticks, the Chinese substitute for a knife, fork, and spoon at meals, consisting of two smooth sticks of bamboo, wood, or ivory.

Chorale, or **Choral,** the psalm or hymn tune of the German Protestant churches.

Choral Music, vocal music in parts; music written or arranged for a choir or chorus, and including oratorios, cantatas, masses, anthems, etc.

Choral Service, a service with intoned responses, and the use of music throughout wherever it is authorized.

Chorazin, one of the cities in which Christ's mighty works were done, but

named only in his denunciation (Matt. xi: 21; Luke x: 13). It was known to St. Jerome, who describes it as on the shore of the lake, 2 miles from Capernaum.

Chord, in music, the simultaneous and harmonious union of different sounds, at first intuitively recognized by the ear, and afterwards reduced to a science by the invention of the laws or rules of harmony.

Chorea, St. Vitus' dance, a disorder of the nervous system characterized by a peculiar convulsive and irregular action of the voluntary muscles. The name is derived from St. Vitus, who is said to have had the power of curing persons afflicted with that disease.

Chorus, originally an ancient Greek term for a troop of singers and dancers, intended to heighten the pomp and solemnity of festivals.

Cho-Sen, new name given by Japan to Korea on annexation of the latter in 1910.

Chosroes I., or **Khosrou the Great,** King of Persia, succeeded Cabades, A. D. 551. He was fierce and cruel, but possessed many good qualities, and encouraged the arts and sciences. He concluded a peace with the Romans, but afterward invaded their territories, but was defeated by Tiberius. He died in 579.

Chouans, the name popularly given during the Vendean civil war in France, to the peasants of Brittany and Lower Maine.

Chouteau, Auguste, an American pioneer; born in New Orleans, La., in 1739. He was from his early youth a fur trader, and with his brother Pierre he founded the city of St. Louis in 1764. He died in St. Louis, Feb. 24, 1829.

Chouteau, Pierre, an American pioneer; born in New Orleans, in 1749. With his brother Auguste he set out in 1763, joining a government expedition. He stopped in the heart of an unsettled country and founded, with his brother, the city of St. Louis. He died in St. Louis, July 9, 1849.

Chouteau, Pierre, Jr., an American capitalist, son of the preceding; born in St. Louis, Jan. 19, 1789. He worked for his father and began trading in fur early in life. After establishing posts for the sale of skins throughout the trans-Mississippi region he purchased the fur-trading interests of John Jacob Astor. He died in St. Louis, Sept. 8, 1865.

Chrism, the name given to the oil consecrated on Holy Thursday, in the Roman Catholic and Greek Churches, and used in baptism, confirmation, ordination, and extreme unction.

Christ, the name given as a title of eminence to Jesus our Saviour, whom, in the words of St. Peter (Acts x: 38), "God anointed," as king, priest, and prophet, "with the Holy Ghost and with power." The two names, Jesus Christ, are not analogous to a modern Christian name and surname; in reality the great Being so designated had but one personal appellation—Jesus; Christ being added by Jesus himself (John 4: 26) to designate His office, function, or mission.

Christ, Disciples of, a denomination of Christians in the United States from which has sprung since 1900 a body known as the CHURCHES OF CHRIST. In September, 1809, Thomas Campbell, a Scotch minister of the seceders' branch of the Presbyterian Church, then living in Western Pennsylvania, issued a "Declaration and Address" deploring the divided state of the Church, and urging as the only remedy a complete restoration of apostolic Christianity and the rejection of all human creeds and confessions of faith. The Christian Association of Washington, Pa., was formed for the purpose of promoting the principles set forth in this "declaration." It was not the intention of the Campbellites to form a distinct religious body, but to effect the proposed reforms in the churches. The Disciples maintained that having accepted the Bible as their only rule of faith and practice, and the only divine basis for the union of all Christians, they were led to reject infant baptism and adopt believers' immersion only. They observe the Lord's Supper each-first day of the week, and heartily and practically accept and exalt the doctrine of the divinity of Christ. The two denominations have 8,741 ministers, 9,040 churches, and 1,142,539 communicants, besides sev-

eral universities and colleges of high rank, and a number of religious publications.

Christadelphians, a religious body who believe that God will raise all who love Him to an endless life in this world (but that those who do not shall absolutely perish in death); that Christ is the Son of God, inheriting moral perfection from the Deity, our human nature from His mother; and that there is no personal devil. In the United States they had in 1890, 63 organizations with 1,277 members, scattered over 20 States. Their founder was Dr. John Thomas, an Englishman, who came to the United States in 1844.

Christ Church, College of, a notable institution in Oxford, England.

Christian II., King of Denmark, Norway, and Sweden; son of Hans and grandson of Christian I., King of Denmark, etc.; born July 2, 1480. Upon rebellion breaking out in Sweden, Christian sent an army commanded by Otto Krumpen, who defeated the Swedes in the decisive battle of Bogesund (Ulrikehamn), Jan. 19, 1520, in which Steen Sture the administrator was killed. Stockholm, under the command of the widow of Sture, stood a siege of four months, during which period the rest of the country was subdued, and on Nov. 4, Christian was crowned King of Sweden. He was one of the most cruel monsters of history, and is known as "The Nero of the North." Sweden revolted under Gustavus Vasa, who expelled the Danish garrisons and became king of Sweden, and founder of the illustrious house of Vasa. Christian was dethroned in Denmark, and died in 1559.

Christian IX. (of Schleswig-Holstein-Sonderburg-Glucksburg); born in 1818, succeeded Frederick VII. as King of Denmark, in 1863. The Kings of Greece, of Norway, Queen of Great Britain, Dowager Czarina of Russia, were his children. He died Jan. 29, 1906.

Christian Architecture, a style of architecture adopted for religious buildings after the introduction of Christianity.

Christian Brothers, a designation for teaching orders of men connected with the educational system of the Roman Catholic Church.

Christian Church, The, consists of those who have been baptized in the name of Christ and who accept His doctrines and live in harmony with them. The Church, in its broadest sense, consists of true believers in all ages; but the Christian Church was established through the life and work of Christ Himself, and consists only of His followers. Its first great increase was at Pentecost, where 3,000 souls were converted; shortly afterward 5,000 were added to the Church. Stephen was the first to suffer martyrdom. Paul made three great missionary tours, and the result was the organic unity of the Church in its first period.

Christian Churches in America.—The colonization of North America sprang from religious motives. The colonists sought freedom here because of the oppressions at home. Periods of American Church History: (1) From 1607–1660, revival and progress. (2) 1660–1720, trial, disputes with Great Britain, religious decline. (3) From 1720–1750, great revivals. (4) From 1750–1783, political agitation, freedom from British rule. (5) From 1783 to the present, extensive revivals, separation of Church and State, abolition of slavery, evangelization. The Protestant Episcopal Church was founded by the James River Colony (1607); its first General Convention was in 1785; it ratified the Thirty-nine Articles in 1832. The Puritan Pilgrims landed at Plymouth in 1620, and began the development of Congregationalism. The Cambridge Platform was established in 1648. The Reformed (Dutch) Church was established in 1628 in New Amsterdam (New York). The first independent organization was in 1771. The Baptists began in Providence, R. I., in 1639, through Roger Williams. The Reformed (German) Church was organized in 1741. The Lutherans were established first in New York in 1669; the first Synod was held in 1748. The Presbyterians were organized at the close of the 17th century. The first Presbytery was established in Philadelphia in 1706, and the first General Assembly in 1789. The first Methodist Society in the United States was

established in New York in 1766, and the first Conference was held in Philadelphia in 1771. The Reformed Episcopal Church was organized in New York in 1873, under Bishop Cummins. The Roman Catholic Church in the United States was first established in Maryland through immigration in 1632. The Episcopal See of Baltimore was established in 1789. For statistics of the American Churches see the separate articles.

Christiancy, Isaac Peckham, an American editor and diplomatist; born in Johnstown (now Bleeker), N. Y., March 12, 1812. He was one of the founders of the Republican party. In 1875 he was chosen United States Senator from Michigan, and in 1879 became Minister to Peru. He died in Lansing, Mich., Sept. 8, 1890.

Christian Endeavor, Young People's Society of, a society distinctly religious in all its features; organized Feb. 2, 1881, in Williston Church, Portland, Me., by the Rev. Francis E. Clark, D. D. From one small association it has expanded into over 72,000 societies, in all parts of the world, with an aggregate membership of over 3,500,000. In addition to the main organizations in the United States it has been found necessary to form branches, among which are the Juniors, organized March 27, 1884, at Tabor, Ia., by the Rev. J. W. Cowan and Miss Belle Smith; the Intermediate, organized by the Rev. A. Z. Conrad, of Worcester, Mass.; and the Mothers', suggested by Mrs. Amanda B. Fellows, of Chicago, and organized in April, 1893, at Topeka, Kan., by Mr. F. C. Barton. The first Christian Endeavor Society in England was organized in 1887, and was followed by similar ones in other countries, and the constitution has been printed in over 30 different languages. The movement is not a denominational one. Any society belonging to an evangelical Church, which adopts the leading principles as set forth in the constitution, including the prayer-meeting pledge, and which guarantees these principles by the name Christian Endeavor either alone or in connection with a denominational name is admitted to all the privileges of the organization.

The distinctive features in the Christian Endeavor movement are its work among the young people, leading them to consecrate their lives to the active service of God; the weekly prayer-meetings, which each member takes a solemn pledge to attend regularly (unless unavoidably detained), and to take part in; and the reconsecration meetings held once a month, at which special efforts are made to see if each one has been faithful to his pledges.

Christian Era, the era or epoch introduced by the birth of Christ. It was calculated back about the year 532, by a monk, Dionysius Exiguus. It is thought that he fixed the advent too late by four years, and that consequently Jesus was born, if the contradiction in terms can be permitted, in B. C. 4.

Christiania, a city and port, the capital of Norway, at the head of the long narrow inlet called Christiania Fjord, about 60 miles from the open sea. The houses are mostly of brick and stone, generally plain buildings, devoid of architectural pretension. Important public buildings are the royal palace, the house of representatives or Storthing, the governor's palace, and the cathedral. The manufactures of the city consist of woolen cloth, ironware, tobacco, paper, leather, soap, spirits, glass, etc., and there are extensive breweries. The exports are principally timber and iron. The environs are exceedingly beautiful. Pop. 227,626.

Christianity, the religion of which Jesus Christ is not only the founder, but also the object, since it is by Him and in Him that man recovers his union with God by an effective reconciliation.

Christians, a religious denomination, founded in 1810 from threefold sources, Methodist, Baptist, and Presbyterian, growing out of secessions from each of those bodies. The denomination was first called "The Independent Baptist Church." The members discard creeds and adhere closely to Biblical terminology in stating their views. The first General Convention was held in 1819. In 1854 resolutions in regard to slavery were adopted which were offensive to

the Southern members, who withdrew, and formed a Southern Convention.

Christian Science, a system of religion, the practice of which consists in the overcoming of sin and the healing of disease. The discoverer and founder of Christian Science was the Rev. Mary Baker Glover Eddy (*q.v.*), of Concord, N. H. It was established by her in 1866, and has had a remarkable development. It is based upon the Bible and set forth in a work by Mrs. Eddy, entitled "Science and Health, with Key to the Scriptures," first published in 1875. "Science and Health," pages 114 and 358, states that "Christian Science, understood, coincides with the Scriptures and sustains logically and demonstratively every point it presents." "Christian Science explains all cause and effect as mental, not physical. It shows the scientific relation of man to God." Christian Science affirms the spiritual personality of God, as opposed to all material theories. God is held to be the divine principle of all being, matter having no actual existence. The spiritual universe manifests but one real mind, God, of whom man is the idea or reflection. Christian Science is then at once the science of God, of man, and of life. God is absolute good. He has not created nor consented to any form of evil, sickness, or death; His laws provide for life only. Sin, sickness and death are abnormal conditions of mortal mind and have no existence outside of carnal thought. Disease is a belief, not a reality. When man fully awakes to the fact that bodily ills and mortality are the results of fear, ignorance and sin, he will be in a position to deal with and master disease on a true scientific basis. Christian Science is thus not only a system of faith, but a method of healing; disease being in its teaching not an actual fact, but a distorted belief, while the cure begins with discarding a belief in the reality of disease. In attestation of its teachings, it points to cures of so-called incurable diseases, such as cancer, consumption, locomotor ataxia, etc., without the aid of material remedies, but through strictly metaphysical methods. Mrs. Eddy says in her book, "Retrospection in Introspection," page 41: "I claim for healing scientifically the following advantages: 1. It does away with all material medicines and recognizes the antidote for all sickness, as well as sin, in the immortal mind; and mortal mind as the source of all the ills that befall mortals. 2. It is more effectual than drugs, and cures when they fail or only relieve, thus proving the superiority of metaphysics over physics. 3. A person healed by Christian Science is not only healed of his disease, but is advanced morally and spiritually. The mortal body being but the objective state of the mortal mind, this mind must be renovated to improve the body."

The services are uniform, consisting of meetings on Sundays and on Wednesday evenings. No sermons are preached by a personal pastor, but a sermon made up of selections from the Bible and "Science and Health, with a Key to the Scriptures," written by Mrs. Eddy, is read by two readers, called the first and second readers, generally a man and a woman. At the Wednesday evening meetings testimonies of healing and remarks on Christian Science are given by the members of the congregation.

The absence of creed and dogma in the Christian Science Church, its freedom from materialism, mysticism, and superstition, also the simplicity, uniformity, and impersonality of its form of worship and organization, are among the distinguishing features which characterize this modern religious movement. Hypnotism, mesmerism, spiritualism, theosophy, faith-cure and kindred systems are classed by Christian Science as foreign to their form of worship. Those practising these beliefs are denied admission to the Christian Science Church.

The rapid growth of this religion, of which we have given only a brief outline, is shown by the increase in the number of its adherents, it having more than 1,000 churches and societies in the United States and foreign lands, while its followers and sympathizers in this country are estimated to be over a million. The First Church of Christ, Scientist, erected at Boston, in 1894, has the enormous membership, resident and non-resident, of over 40,000, and the membership of the branch churches is about the same, many of them being also members of the Mother Church. All Christian Science churches, other

than the Mother Church in Boston, are branches of that church. A spacious auditorium with a seating capacity of 5,000 and built at a cost approaching $2,000,000, has been added to the church at Boston, and was dedicated in June, 1906, 30,000 persons being present on that occasion. Magnificent and costly church buildings have been erected in New York City, Philadelphia, Chicago and many other cities, including a beautiful granite edifice in Concord, N. H., the gift of Mrs. Eddy, whose home was for years in that city. She now resides in Brookline (Newton), Mass., a suburb of Boston. There are at present more than 4,000 practitioners of Christian Science healing in the United States. Branch churches exist in many foreign countries, including Great Britain and Ireland, Canada, Mexico, the Bahamas, British West Indies, Cuba, the Hawaiian Islands, Philippine Islands, Sandwich Islands, France, Germany, Norway, Switzerland, Italy, Australia, India, China, and South Africa.

Besides the text-book of Christian Science, Mrs. Eddy's principal works are: "People's Idea of God" (1886); "Christian Healing" (1886); "Unity of Good" (1887); "Retrospection and Introspection" (1891); "No and Yes" (1891); "Christ and Christmas" (1893); "Pulpit and Press" (1895); "Church Manual" (1895); "Miscellaneous Writings" (1897); "Christian Science *vs.* Pantheism" (1898); "Messages to the Mother Church" (1900-1901-1902).

The Christian Science Publishing Society publishes "The Christian Science Journal" (monthly); "Der Herold Der Christian Science" (monthly—German); "The Christian Science Sentinel" (weekly); "The Christian Science Monitor" (a daily newspaper); and numerous pamphlets and tracts in English, French and German.

Christian University, a Co-educational institution in Canton, Mo.

Christie, William Henry Mahoney, an English astronomer; born in Woolwich, Oct. 1, 1845. On the retirement of Airy as Astronomer Royal in 1881, Christie was appointed his successor, a position which he still holds. He is best known for his spectroscopic work with the Greenwich Equatorial, especially that relating to the motion of stars in the line of sight.

Christina, Queen of Sweden; born in 1626. She was the daughter of the great Gustavus Adolphus, and on her father's death, in 1632, was crowned queen, being then only six years of age, with the five principal ministers of state appointed by Parliament her guardians. Having resolved to abandon Protestantism, she, in 1654, in an assembly of the states at Upsala, abdicated her crown, reserving to herself an annual income of $200,000. She forthwith left Sweden, and traveled in male attire to Brussels, where she made a secret profession of the Roman Catholic faith. At Innsbruck, she made a more formal and public avowal of it. She next rode to Rome, where the reception accorded to her was an ovation. There she did homage to Pope Alexander VII., and received the honor of his name, in addition to her own, being thenceforward styled Christina Alexandra. In 1656 she went to France, where she lived principally at Fontainebleau, Compiègne, and Paris. During the year following, she excited universal horror and disgust by the cruel assassination of her master of the horse, the Marquis Monaldeschi. In 1660 her successor on the Swedish throne died, and she thereupon repaired to Sweden to claim it for herself; but her conversion to the Roman Catholic Church proved a bar to her resumption of the crown, and she was compelled to return to Rome, where she died in 1689.

Christison, Sir Robert, a Scotch physician, born in Edinburgh, July 18, 1797, attained eminence as a toxicologist, professor of medical jurisprudence, and author. He died Jan. 27, 1882.

Christmas, the festival of the Nativity of Christ, observed by the Christian Church yearly on the 25th of December, commonly accepted as the date of the birth of Christ.

Christmas Island, a British island in the Pacific, with some guano deposits. Another Christmas Island, annexed to Great Britain in 1888, lies about 250 miles S. W. of Java, is 6 miles long by 4 broad, partly volcanic,

THE FIRST CHURCH OF CHRIST, SCIENTIST IN BOSTON

THE MOTHER CHURCH AND ITS EXTENSION

MRS. MARY BAKER G. EDDY

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partly coralline in structure. There is a third Christmas Island off Cape Breton.

Christophe, Henri, a King of Haiti, was an African slave; born in Grenada, West Indies, in 1767, who received his freedom as a reward of faithful service. On the outbreak of the negro insurrection in St. Domingo, 1801, he became one of its leaders. After the deposition of Toussaint, Christophe served under his successor, Dessalines. In 1811 Christophe obtained undisputed possession of a portion of the island with the title of King of Haiti. He committed suicide in 1820.

Christopher's, St. (commonly called St. Kitt's), a British island in the West Indies, one of the Leeward Islands, 23 miles in length, and in general about 5 in breadth; area, 68 square miles. The interior consists of many rugged precipices and barren mountains. The chief town, a seaport with open roadstead, is Basse-Terre. The island has a legislature of its own, with an executive subordinate to the governor of the Leeward Islands, resident in Antigua. It was discovered by Columbus in 1493. Pop., 29,127.

Christy, Charles, an American minstrel; born in New York city, in 1828. He was an actor from boyhood, singing on the minstrel stage. He died in Kansas City, Mo., Feb. 13, 1897.

Chromium, an element discovered in the native chromate of lead of Siberia. It was afterward found combined with iron. It is the coloring matter of the emerald and beryl, and has received its name from the brilliant colors of its compounds.

Chromium (or Chrome) Steel, steel in which the carbon is replaced by the metal chromium. It is claimed that this steel can sustain a greater degree of heat than ordinary steel.

Chromo-lithography, the art of printing chromo-lithographs. Color printing was not successful till it was combined with lithography, invented between 1796 and 1800 by Alois Senefelder of Prague. In the art an outline drawing is first traced, then various stones are taken, one for each color, to which the drawing is transferred.

Chromosphere. During total eclipses it is observed that a red-colored envelope surrounds the sun, and shoots up to great distances from the surface. It seems to have been first recognized by Secchi; and the projecting portions of it are commonly described as "red-colored protuberances" and "red flames." To this red envelope the name chromosphere was given by Sir J. Norman Lockyer, and till 1868, when M. Janssen and Mr. Lockyer almost simultaneously pointed out a method of viewing it, it was never seen except during eclipses.

Chronicle, an historical account of facts or events disposed chronologically or in the order of time. Most of the historians of the Middle Ages were chroniclers who set down the events which happened within the range of their information, according to the succession of years.

In Scriptures, the name of two books, consisting of an abridgement of sacred history from its commencement down to the return of the Jews from the Babylonish captivity.

Chronograph, the name given to various devices for measuring and registering very minute portions of time with extreme precision.

Chronology, the doctrine of science of time, or of computing dates: the method of ascertaining the true periods, or years, when past events took place, and arranging them in their proper order, according to their dates. The following are the leading systems of chronology existing among the several nations of the world: Chinese and Japanese Chronology: In these calculation is made by cycles of 60 years, each year of the cycle separately named. Hindu Chronology: (1) Historical: No system is universal in India or exclusive. Two of the chief are the era of Salivahana (A. D. 77), and that of Vicramaditya (B. C. 57). (2) Astronomical: The Hindus have four ages. We are now in the Kali Yooga, beginning 3101 B. C.

Greek Chronology: In the time of Herodotus, and subsequently in that of Thucydides, the Greeks had no chronology spanning wide intervals of time. It was not till B. C. 194 that Eratosthenes, the "father" of Greek chronology, began to count by Olym-

piads, the first of which was dated from what we now should call B. C. 776.

Roman Chronology:— The method of Roman reckoning was by the consulships, which, of course, could give no indication of time unless their order was carefully preserved, and even then was clumsy. A much simpler and better plan was by calculating years from the building of the city. This Varro placed in what would now be called B. C. 753, while Cato preferred 752.

Jewish Chronology: Up till the 15th century the Jews followed the era of the Seleucidæ. Since then they have dated from the creation of the world, which they fix 3760 years and three months before the commencement of the Christian era.

Mohammedan Chronology: Dates are counted from the Hegira, that is, the time of Mohammed's flight from Mecca to Medina, A. D. 622.

Christian Chronology: Since the 6th century dates have begun to be reckoned from the birth of Christ, though the system did not become universal in Europe till many centuries subsequently.

Chronometer, any instrument that measures time, as a clock, watch, or dial; but, specifically, this term is applied to those time-keepers which are used for determining the longitude at sea, or for any other purpose where an accurate measure of time is required, with great portability in the instrument.

Chrysalis, the last stage through which certain insects pass before becoming a perfect insect. It is also known by the name, pupa.

Chrysanthemum, a genus of herbaceous or slightly shrubby plants, represented in the United States by the well-known ox-eye daisy, and the corn marigold, besides which many varieties have been introduced from other countries.

Chryseis, the daughter of Chryses, priest of Apollo, famed for beauty and for her skill in embroidery. She fell to Agamemnon's lot in the course of the Trojan War, but was afterward restored, in order to stop a plague among the Grecians, which Apollo had sent at the request of her father.

Chrysippus, a famed Greek philosopher; about 280–206 B. C.; born probably at Soli in Cilicia. He attended at Athens the lectures of Cleanthes, the successor of Zeno, and after his death became head of the Stoic school. He wrote over 700 books.

Chrysis, the golden wasp, or ruby-tail fly. They are magnificently colored with metallic hues. They are parasitic, depositing their eggs in the nests of the solitary mason-bees, on the larvæ of which their larvæ live.

Chrysoberyl, a gem almost as hard as sapphire, and the finer specimens of which are very beautiful, particularly those which exhibit an opalescent play of light. It is of a green color, inclining to yellow, semi-transparent, or almost transparent, and has double refraction.

Chrysolite, a green-colored orthorhombic mineral of a vitreous luster, transparent or translucent.

Chrysostom, John, St., ("golden-mouthed"), a celebrated Greek father of the church; born in Antioch about A. D. 344; died at Comana, in Pontus, in 407.

Chub, an American fish, of the genus carp. It is indifferent food, and rarely attains the weight of 5 pounds. Allied European species receive the same name.

Chubut, or **Chupat,** a colony in Patagonia, so named from a river which drains a large part of its area. The entrance to the river, about 500 miles S. of the river Platte, is bad, but the bar can be crossed by vessels of from 7 to 12 feet draught. Its principal interest lies in its Welsh settlement, which has remained almost wholly Welsh-speaking.

Chukiang, or **Canton River,** the "Pearl River" of the Chinese, is the lower part of the Pekiang, and has a navigable channel of about 300 miles. Opposite Canton it is about ½ mile wide, and is crowded with shipping.

Chung-King, a Chinese port in Szechuen, on the Yang-tze-Kiang, at the junction of the Pei river. It was declared open in 1890, and has acquired a thriving trade. Pop. (1900) about 125,000.

Chuquisaca, or **Sucre,** a city of South America, the former capital of

Bolivia; well situated on a plateau between the Amazon and La Plata rivers, 9,343 feet above sea-level. Pop. 20,000. The province of Chuquisaca has an area of 39,890 square miles; pop. 286,710.

Church, Benjamin, an American soldier; born in Duxbury, Mass., in 1639. He commanded forces with distinction in King Philip's War and in the famous battle of 1675 with the Narrangansetts won renown. He killed King Philip in 1676; died in January, 1718.

Church, Benjamin, an American physician; born in Massachusetts, about 1710. He was a leader in the "Boston tea-party." He secretly corresponded in cipher with the British, and, being detected, failed to exculpate himself. He sailed for the West Indies in 1776, and was lost at sea.

Church, Francis Pharcellus, an American editor; born in Rochester, N. Y., Feb. 22, 1839; died in 1906.

Church, Frederick Edwin, an American landscape-painter; born in Hartford, Conn., May 4, 1826. His "View of Niagara Falls from the Canadian Shore," is regarded by many as the most successful representation of the great cataract. He died in New York city, April 7, 1900.

Church, William Conant, an American journalist; born in Rochester, N. Y., Aug. 11, 1836.

Church Army, an English religious organization, founded in London in 1882 having for its objects the training of working men for ecclesiastical service among the laboring classes.

Church Discipline, the practice of the Christian Church in dealing with such of its office-bearers and members as have by public scandal caused hindrance to its common spiritual life.

Church Government, the regulation and ordering of spiritual matters, or those pertaining to the discipline and work of the Church.

Churchill, Randolph Henry Spencer, Lord, third son of the seventh Duke of Marlborough; born Feb. 13, 1849; entered the British Parliament in 1874, and became a leader of the Conservative party. On the defeat of Gladstone's Irish Bill in 1886 Churchill became leader of the House of Commons and Chancellor of the Exchequer, posts which he unexpectedly resigned in December, 1886. Died in London, Jan. 24, 1895. Lord Randolph married, in 1874, Miss Jennie, daughter of the late Leonard Jerome, of New York City. Their son WINSTON LEONARD SPENCER, born 1874, educated at Harrow and Sandhurst, entered the army in 1895, saw active service in Cuba (1895), in India (1897-98), Egypt (1898), and in South Africa (1899). He is the author of several descriptive campaign works, and is a member of the British Parliament. In 1900, Lady Randolph married George Cornwallis West.

Churchill, Winston, an American author; born in St. Louis, Mo., Nov. 10, 1871. He was graduated from the United States Naval Academy in 1894, and became an editor of the "Army and Navy Journal." He wrote "Richard Carvel"; "The Crisis"; "The Crossing"; "Coniston."

Churchill River, a river of the Northwest Territories of Canada, which rises in La Crosse Lake, forms or passes through various lakes or lake-like expansions, and discharges into Hudson Bay, at Fort Churchill.

Churching of Women, a form of thanksgiving after child-birth, adopted from the Jewish ceremony of purification, and practiced still in the Roman Catholic and Anglican Churches.

Church of God, a Christian sect which originated in 1830, in a movement in which John Winebrenner, previously a minister in the German Reformed Church, was most prominent. A new society was organized by him, and others who accepted his views, which took the name of the Church of God. It holds the doctrines of the Evangelical churches, with baptism by immersion only, subsequent to faith; feet-washing; the administration of the Lord's Supper in the evening; all the instrumentalities of revivals; and protests against the traffic in intoxicating drinks.

Church, States of the, or **Papal States,** a territory that stretched from the Po to near Naples, and in 1869 had an area of 15,774 square

miles and a pop. of 3,000,000. The war of 1859 and the popular vote of 1860 left the Pope only the Comarca of Rome, the legation of Velletri, and the delegations of Civita Vecchia, Frosinone, and Viterbo, 4,493 square miles in extent, with a pop. of about 700,000, the rest being united with Italy, and in 1870 the remnant of the Pope's temporal possessions were annexed to the kingdom of Italy, of which Rome became the capital. The Pope is, however, still permitted to keep up the state of a sovereign within the precincts of the Vatican.

Church-warden, one of two Episcopalian parochial officers chosen annually at the Easter vestries, one by the minister and one by the parishioners. Their duties are generally to act as legal representatives of the parish.

Churrus, the resinous exudation of the leaves and flowers of Indian hemp. It is used by the natives of India as an intoxicating drug.

Churubusco, Battle of, fought in Mexico, Aug. 20, 1847. After the battle of Contreras, fought on the same day, Santa Ana, with some 27,000 men, made a stand at this hamlet, on the river Churubusco, 6 miles S. of the City of Mexico, to resist the advance of the United States army under Gen. Scott. Of 8,000 United States troops in the two actions there were 139 killed and 926 wounded; the Mexicans lost 4,000 killed and wounded, 3,000 prisoners, 37 guns, and much ammunition.

Chusan, the principal of the group of islands known as the Chusan Archipelago; lies about a mile off the E. coast of China, opposite Ningpo. It has an area of over 230 square miles, and a population of 200,000 to 250,000.

Cibber, Colley, an English dramatist; born in London, Nov. 6, 1671; was one of the most successful stagers of plays in the history of the theater. In 1730, he was appointed Poet Laureate. His autobiographic "Apology" is his best work. He died Dec. 12, 1757.

Cibitu, or **Sibutu,** a southern Philippine island, 14 miles long and 2 miles wide. It is flat, with a conical mountain in the center, 500 feet high. It was sold by Spain (with Caygayan) to the United States in 1900, upon payment of $100,000, having been overlooked in the terms of the treaty of peace. Pop. (1903) 280.

Cicely, a popular name applied to several umbelliferous plants. Sweet Cicely is found in North American woods from Canada to Virginia.

Cicero, Marcus Tullius, a Roman orator; born in Arpinum, in the year of Rome 647 (106 B. C.). He was one of the greatest orators the world has known, and a statesman and patriot of singularly pure conduct and motives. He was executed at the instance of the Triumvirate—Octavianus, Antony and Lepidus, B. C. 43.

Cid, The, Don Rodrigo (Ruy) Diaz, Count of Bivar; born in 1026. The model of the heroic virtues of his age, and the flower of Spanish chivalry, styled by his enemies, the Moors of Spain, cid (the lord), and by his king and countrymen Campeador (champion), he continues to live in the poetry of his country. The Cid died at Valencia, in the 74th year of his age (1099). What this hero won, and for many years defended, the united power of Leon and Castile was scarcely able to preserve against the encroachments of the infidels. His dead body was mailed and mounted on his favorite steed and marched out against the enemy, who fled at its approach.

Cider, a liquor made from the juice of apples.

Cienfuegos, a port and town of Cuba, on the S. coast, at the mouth of Iagua bay, 140 miles from Havana. Cienfuegos is the center of the Cuban sugar trade. Pop. 59,128.

Cigar, a small roll of manufactured tobacco leaves carefully made up, and intended to be smoked by lighting at one end and drawing the smoke through it. The cigars of Havana, Cuba, are considered the best brands.

Cilia, the hair which grows from the margin of the eyelids. The term is also applied to microscopic filaments, or plates which project from animal membranes and are endowed with quick vibratile motion. In most of the lower animals the respiratory function is effected by means of the vibratile cilia.

Cilicia, an ancient division of Asia Minor, now included in the Turkish province of Adana. In early ages Cilicia was ruled by its own kings, the people, who were probably akin to Syrians, and Phœnicians, being notorious pirates. The country fell successively under Persian, Macedonian, Syrian and Roman rule.

Cimarrones, a name used in the Spanish colonies of America for fugitive slaves, of whom in the 16th century many hundreds collected on the Isthmus of Panama, where they built walled towns, attacked the Spanish settlements, and became a terror all over the country. They finally became amalgamated with the Indian tribes.

Cimarosa, Domenico, an Italian composer; born in Aversa, Dec. 17, 1749. He became famous when 21 with a comic opera, "The Pretended Parisian." In the ensuing 30 years he wrote over 80 comic operas. As a writer of comic operas Cimarosa has never been surpassed. He died in Venice, Jan. 11, 1801.

Cimbri, a Celtic tribe, inhabiting Jutland, having joined with the Teutons, and which entered Illyria, where they defeated Cn. Papirius Carbo, at the head of a consular army, B. C. 113. Marius collected a large army and went to oppose them. The Cimbri and Teutones separated into two bodies, the former taking the road through Helvetia, and the latter pressing forward to assail the Roman army. Their intention was to reunite their forces on the Lombard plains. The Teutones were attacked and overwhelmed by the Romans, and 100,000 men are said to have perished on that occasion, B. C. 102. The Cimbri in the meantime had reached the valley of the Adige, where they defeated the Roman army under Quintus Catulus. He formed a junction with Marius and allured them into an unfavorable position, in which they were defeated and exterminated, B. C. 101.

Cimmerian Bosphorus, an ancient name for the Strait of Kaffa.

Cimmerii, or **Cimmerians,** a nomadic race, inhabiting the Crimea and parts of the neighboring country, having been expelled by the Scythians, passed along the shores of the Euxine. invaded Asia Minor, and pillaged Sardis, the capital of Lydia, B. C. 635. In that country they were said to have remained until about B. C. 617, when they were defeated and driven out of Asia Minor.

Cimon, an ancient Athenian general and statesman, was a son of the great Miltiades. He fought against the Persians in the battle of Salamis (480 B. C.), and shared with Aristides the chief command of the fleet sent to Asia to deliver the Greek colonies from the Persian yoke. He died shortly after, in 449, while besieging Citium in Cyprus.

Cinchona, a genus of trees found exclusively on the Andes in Peru and

CINCHONA.

adjacent countries, and recently introduced into India, producing a medicinal bark of great value known as Peruvian bark.

Cinchona Bark, the bark of several species of trees used in medicine, or for the extraction of the alkaloids, quinine, cinchonine, etc., which they contain.

Cinchonism, a group of symptoms, chiefly connected with the nervous system, produced by the presence of quinine in the system. There are noises in the ears. These noises are accom-

panied with more or less deafness. Affections of sight are less common. These symptoms usually pass away in a few days after discontinuing the drug.

Cincinnati, a city and county-seat of Hamilton Co., O. It is the second city in the State in population and the tenth in the United States, according to the census of 1900. It is built on the N. shore of the Ohio river, directly opposite Covington, Ky.; and is connected with the Kentucky shore by five bridges; area 35¼ square miles; population (1910) 364,463.

The city owns an extensive waterworks system, costing $10,291,722. The principal park in Cincinnati is Eden Park, situated on a hill overlooking the city and the Ohio river. It contains 216 acres and two reservoirs, so constructed as to resemble natural lakes. Burnet Woods, in the N. part of the city, contains 170 acres of woodland. Hopkins, Lincoln, and Washington are smaller parks, forming magnificent pleasure grounds. Spring Grove Cemetery is one of the most beautiful in the West, and contains about 600 acres, well wooded, and many handsome monuments and mausoleums.

The public buildings include the (U. S.) Government Building, of granite, cost $5,200,000; (U. S.) Marine Hospital; the Y. M. C. A. Building, cost, $201,063; the County Court House, and jail, built in Romanesque style; the City Hospital; the City Hall, erected at a cost of over $1,000,000; and the Chamber of Commerce. Cincinnati is also celebrated as the site of one of the earliest astronomical observatories in the United States, founded about the same time as that of Harvard University and the Naval Observatory at Washington. The observatory has since been moved to Mount Lookout, a suburb of Cincinnati, and a much better site than that first selected. The institution is best known for the work done there by Prof. Ormond Stone, one of its former directors, on the measurement of double-stars and the discovery of many new ones. It contains an 11-inch refractor and a new meridian circle. The University of Cincinnati, opened in 1873, had twenty years later, a student body of 1,200, with 175 instructors, and an equipment and endowment valued at $3,500,000.

The Federal census of 1905 reported 2,171 manufacturing establishments, employing $130,271,811 capital and 66,774 persons; paying $83,258,492 for stock used and $27,389,569 for wages; annual value of products $166,059,050. The Rookwood Pottery (q. v.) is famous for its porcelain.

There are many beautiful churches and fine public schools. Among municipal benevolent and penal institutions are the City Infirmary, the Work House, and the House of Refuge for incorrigible or homeless boys and girls. Besides large public hospitals, there are several private ones, and many orphan asylums and homes.

Cincinnati, named in honor of the Society of the Cincinnati, was first settled by white men in 1780, and was incorporated as a city in 1819. Mounds containing various relics show that a portion of the site of the city was anciently occupied. The first steamboat descending from Pittsburg visited the town in 1811; the Miami canal was completed in 1830; the first railway was opened in 1845.

Cincinnati, a society or order in the United States, established by the officers of the Revolutionary army in 1783, "to perpetuate their friendship, and to raise a fund for relieving the widows and orphans of those who had fallen during the war." The badge of the society is a bald eagle suspended by a dark-blue ribbon with white borders, symbolizing the union of France and the United States. On the breast of the eagle there is a figure of Cincinnatus receiving the military ensigns from the senators, round the whole are the words "Omnia reliquit servare rempublicam." Membership descends to the eldest lineal male descendant, and, in failure of direct male descent, to male descendants through intervening female descendants. The general society is composed of the general officers and five delegates from each State society, and meets triennially. In 1854 it ruled that proper descendants of Revolutionary officers who were entitled to original membership, but who never could avail themselves of it, are qualified for hereditary membership, if found worthy, on due application.

Cincinnatus, Lucius Quinctius, a wealthy patrician in the early days of the Roman Republic, born about 519 B. C. He succeeded Publicola in the consulship, and then retired to cultivate his small estate beyond the Tiber. The messengers of the senate found him at work on his farm when they came to summon him to the dictatorship. He rescued the army from its peril, and then returned quietly to his farm. At the age of 80 he was again appointed dictator to oppose the ambitious designs of Spurius Mælius.

Cinematograph, a device for showing pictures of men, animals, etc., in motion.

Cinnabar, red sulphide of mercury, the principal ore from which that metal is obtained, occurring abundantly in California, China, etc. It is of a cochineal-red color, and is used as a pigment under the name of vermilion.

Cinnamic Acid, an acid which exists in the free state in the balsams of tolu and Peru, in liquid storax, and in gum benzoin.

Cinnamon, an aromatic substance consisting of the bark of a tree, from which the essential oil of Cinnamon is distilled. The oil has aromatic carminative, and stimulant properties.

Cinque Ports, (Five Ports), the sea-port towns of Dover, Sandwich, Hastings, Hythe, and Romney, England; to which three others were afterward added, viz., Winchelsea, Rye, and Seaford. These towns are incorporated, with peculiar privileges; are under the government of a lord warden, to whom writs for the election of members to parliament from them are directed; and the members so elected are termed Barons of the Cinque Ports.

Cintra, a town in Portugal, 15 miles W. N. W. Lisbon, finely situated on the slope of the Sierra de Cintra. The kings of Portugal have a palace with fine gardens at Cintra. The town is celebrated for the convention entered into there in 1808, by which the French, after their defeat at Vimeira, were conveyed to France. Pop. 4,751.

Ciphers, signs used to represent numbers, whether borrowed signs, as letters, with which the Greeks designated their numbers, or peculiar characters, as the modern or Arabic ones. The ciphers, such as they are at present, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, did not come into common European use until the 11th century.

Cipher Writing, a method of sending important intelligence in a manner so effectually disguised that only those for whom the news is intended can understand the meaning of what is written. By this method one word may be used to represent an entire sentence and thus not only is the cost of transmitting a message materially reduced, but the contents become known only to the person for whom it is intended or to the possessor of a key. Cipher codes are employed by the State Departments of all governments and frequently changed. The special code is entrusted to the personal custody of diplomatic officials embarking on a mission, who retain possession of it and destroy it if their lives are endangered.

Cipriani, Giambattista, an Italian history-painter and designer; born in Florence in 1727, of an old Pistoja family. He died in Hammersmith, England, Dec. 14, 1785.

Circassia, or **Tcherkessia,** a mountainous region in the S. E. of European Russia, lying chiefly on the N. slope of the Caucasus, partly also on the S., and bounded on the W. by the Black Sea, and now forming part of the Lieutenancy of the Caucasus. The mountains are intersected everywhere with steep ravines and clothed with thick forests. Its climate is temperate, its inhabitants healthy and long-lived.

The Circassians, properly so called, have been estimated to number from 500,000 to 600,000.

Circe, a daughter of Sol and Perse, celebrated for her skill in magic and poisonous herbs, who lived on an island called Æa, on the coast of Italy. Ulysses, on his return from the Trojan war, visited her coast; and all his companions, who ran headlong into pleasure and voluptuousness, were changed by Circe's potions into swine. Ulysses, fortified against all enchantments by an herb called moly, which he had received from Mercury, demanded from Circe the restoration of his companions to their former state. She complied, loading the hero with

honors; and, for one whole year, he forgot his glory in his devotion to pleasure.

Circle, a plane figure contained by one line, which is called the circumference, and is such that all straight lines drawn from a certain point (the center) within the figure to the circumference are equal to one another.

Circle, Magic, a space in which sorcerers were wont to protect themselves from the fury of the evil spirits they had raised. This circle was usually formed on a piece of ground about 9 feet square, in the midst of some dark forest, churchyard, vault, or other lonely and dismal spot. Inside the outer circle was another somewhat less, in the center of which the sorcerer had his seat. The spaces between the circles, as well as between the parallel lines which inclosed the larger one, were filled with all the holy names of God, and a variety of other characters supposed to be potent against the powers of evil. Without the protection of this circle, the magician, it was believed, would have been carried off by the spirits.

Circuit Court, a court in the United States next in rank to the United States Supreme Court. The country now has nine circuits, each consisting of several States, and each is allotted to one of the nine justices of the Supreme Court, who must attend at least one term of court in each district of his circuit every two years. The judges of each circuit and the justice of the Supreme Court for the circuit constitute a Circuit Court of Appeals.

Circular Notes, notes or letters of credit furnished by bankers to persons about to travel abroad.

Circular Numbers, numbers whose powers end on the same figures as themselves; as 0, 1, 5, etc.

Circulation, in anatomy and physics, the term used to designate the course of the blood from the heart to the most minute blood-vessels (the capillaries), and from these back to the heart.

Circulation of Sap, in plants, its ascent from the root to the leaves and bark, and its partial descent after the elaboration, which it undergoes in these organs.

Circumcision, an operation consisting in removing circularly the prepuce of infants. God commanded Abraham to use circumcision as a sign of his covenant; and in obedience to this order, the patriarch at 99 years of age was circumcised, as also his son Ishmael, and all the males of his household (Gen. xvii: 10–12). God repeated the precept to Moses, and ordered that all who intended to partake of the Paschal sacrifice should receive circumcision, and that this rite should be performed on children on the eighth day after their birth (Ex. xii: 44). The Jews and all the other nations sprung from Abraham, as the Ishmaelites, the Arabians, etc., have always been very exact in observing this ceremony. At the present day it is an essential rite of the Mohammedan religion, and though not enjoined in the Koran, prevails wherever this religion is found.

Circumference, or **Periphery,** the curve which incloses a circle, ellipse, oval or other plane figure.

Circumnavigator, one who sails round the globe. The first European known to have circumnavigated the globe was Magellan or Magalhaens, a Portuguese, who accomplished the feat in A. D. 1519. From him the Straits of Magellan derive their name.

Circumpolar Stars, those that appear to move around the pole and perform their circles without setting.

Circumstantial Evidence, evidence obtained from circumstances, which necessarily or usually attend facts of a particular nature, from which arises presumption; any evidence not direct and positive.

Circumvallation, or **Line of Circumvallation,** in military affairs a line of field-works consisting of a rampart or parapet, with a trench surrounding a besieged place, or the camp of a besieging army.

Circus, among the Romans, a nearly oblong building without a roof, in which public chariot-races and exhibitions of pugilism and wrestling, etc., took place. The modern circus is a place where horses and other animals are trained to perform tricks, and where exhibitions of acrobats and various pageantries, including a large amount of buffoonery, are presented.

Cirrhosis, a chronic nonsuppurative inflammation. The term was originally applied to the liver, and was due to alcoholic indulgence.

Cirta, the capital of the ancient Massylii in Numidia. After the defeat of Jugurtha it passed into the hands of the Romans, and was restored by Constantine, who gave it his own name.

Cisalpine Republic, a former State in North Italy. After the battle of Lodi, in May, 1796, General Bonaparte proceeded to organize two States — one on the S. of the Po, the Cispadane Republic, and one on the N., the Transpadane. These two were on July 9, 1797, united into one under the title of the Cisalpine Republic, which embraced Lombardy, Mantua, Bergamo, Brescia, Cremona, Verona, and Rovigo, the duchy of Modena, the principalities of Massa and Cararra, and the three legations of Bologna, Ferrara, and the Romagna. The republic had a territory of more than 16,000 square miles, and a population of 3,500,000. Milan was the seat of the government or Directory. In 1802 it took the name of the Italian Republic, and chose Bonaparte for its president. A deputation from the republic in 1805 conferred on the Emperor Napoleon the title of King of Italy; after which it formed the kingdom of Italy till 1814.

Cisleithania, or **Cisleithan Provinces,** Austria proper or Austria W. of the river Leitha, which partly forms the boundary between it and Hungary.

Cisneros-Betancourt, Salvador, a Cuban patriot; born in Puerto Principe in 1832. During the Revolution of 1868–1878, he was president of the Cuban House of Representatives, and during a part of the time president of the Cuban Republic. In 1895 he was re-elected president of the new Cuban Republic.

Cissoid, a curve in geometry, the locus of the vortex of a parabola rolling upon equal parabola.

Cist, a place of interment of an early or prehistoric period, consisting of a rectangular stone chest or inclosure formed of rows of stones set upright, and covered by similar flat stones.

Cistercian, a monastic order in connection with the Roman Catholic Church.

Cistern, a tank for holding water. Cisterns differ from wells in that they do not get their water from natural sources, such as springs, but through channels made by the hand of man.

Citation, a summons or official notice given to a person to appear in a court as a party or witness in a cause.

Cithern, or **Cittern,** an old instrument of the guitar kind, strung with wire instead of gut.

Cities of Refuge. Moses, at the command of God, set apart three cities on the E. of Jordan, and Joshua added three others on the W., whither any person might flee for refuge who had killed a human creature inadvertently. The three on the E. of Jordan were Bezer, Ramoth, and Golan; the three on the W. were Hebron, Shechem, and Kedesh. (Deut. iv: 43; Josh. xx: 1–8.)

Cities of the Plain, Sodom and Gomorrah, chief of those five cities which, according to the commonly received account, were destroyed by fire from heaven, and their sites overwhelmed by the waters of the Dead Sea.

Citizen, a member of a State or community, an inhabitant of any State or place. "All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside."—Constitution of the United States, Amend. xiv., Sec. 1.

Citric Acid, is a very widely distributed acid, being present in most common fruits, such as gooseberries, currants, lemons, citrons, cherries, and many others.

Citron, a tree of the genus Citrus. A small evergreen shrub introduced into the S. parts of Europe and Asia.

City, a municipal organization chartered by the sovereign authority, and endowed with certain powers of self government. In remotely ancient times a city was usually itself a center of sovereign power. This feature survives only in cities like Hamburg and Bremen. It does not exist in American or English cities, which are as much under the control of the State

as the smaller village, and which are in effect simply corporations organized for the better management of corporate affairs, the protection of health, the general safety, and so forth.

Ciudad-Rodrigo, a fortress in Spain, in Leon, on the river Aguada. In the Peninsular War it was taken by storm by the British under Wellington, after a siege of 11 days. The Cortes gave him the title of Duke of Ciudad-Rodrigo.

Civet, a genus of carnivorous animals, natives of the warmer regions of Asia and Africa. In general appearance the civets remind one of animals of the cat tribe, which they also resemble in habits. The odoriferous substance which these animals yield, called, from them, civet, when largely diluted with oil or other materials becomes an agreeable perfume. At a time when perfumes were more fashionable than they are at present civet was very highly esteemed.

Civic Crown, among the Romans, the highest military reward, assigned to him who had preserved the life of a citizen. It bore the inscription "Ob civem servatum," that is, "for saving a citizen," and was make of oak leaves. The person who received the crown wore it in the theater, and sat next the senators, and when he came in all the assembly arose as a mark of respect.

Civics, the science that treats of citizenship and the relations between citizens and the government. It embraces ethics, or social duties; civil law, or governmental methods; economics, or the principles of finance and exchange; and the history of civic development.

Civil Damage Acts, legislative bills, passed in several of the United States, giving to husbands, wives, children, parents, guardians, employers, and others who have sustained injury in person or property or means of support, by an intoxicated person in consequence of such intoxication, the right of action against the person who sold or gave away the liquor which caused such intoxication, have been held to be constitutional. In some cases the right of action has been extended to the owner of the premises where such intoxicating liquor has been obtained.

Civil Engineering, the science or art of constructing machinery for manufacturing purposes, constructions and excavations, for general transit, as canals, docks, railroads, etc.

Civilization. The influences by which men operate upon each other in society produce in their aggregate the particular state and tendencies of each society, and these constitute what is called the civilization of the society. Civilization, then, may be defined as the sum of the results of individual influence upon society. When these influences are on the whole beneficial, civilization is progressive; when they are injurious, it is retrograde. The common use of the word civilizaton as an equivalent of progress or refinement is a sufficient indication of the belief of mankind that these influences are on the whole beneficial; and the continued existence of society is in itself a confirmation of this belief.

Civil Service, that branch of the public service which includes the non-military servants of the government. In January, 1883, the United States Congress passed a law to prevent the abuse of the appointing power of the officers of government. The President was authorized to appoint, with the advice and consent of the Senate, three civil service commissioners, whose duty is to aid the President in preparing suitable rules which shall provide for open competitive examinations for testing the fitness of applicants for the public service, such examinations to be practical in their character, and so far as may be relating to those matters which will fairly test the relative capacity and fitness of the persons examined to discharge the duties of the service. All the places arranged in classes are to be filled by selections according to grade from among those standing highest as the result of such examinations. The appointments to the public service in the departments at Washington are to be proportioned upon the basis of population to the several States and Territories and the District of Columbia. The law provides a period of probation before any absolute appointment is made, and exempts all persons in the public service from all obligation to contribute to any political fund or to render any political service. It for-

bids any person in the public service using his official authority to coerce the political action of any other person or body. Non-competitive examinations in all proper cases are provided for after notice given of a vacancy, the appointing power to give notice in writing to the civil service commission of the persons selected for appointment among those who have been examined. Power is given this commission to make regulations for, and to have control of, such examinations, subject to the rules made by the President. The civil service commission is required to report annually to the President, for transmission to Congress, its own action, the rules and regulations, and the exceptions thereto in force, the practical objects thereof, and any suggestions for the more effectual accomplishment of the purposes of the law. Provision is made for holding examinations at convenient places twice each year in every State and Territory of the United States.

The statute punishes by fine and imprisonment all in the public service who wilfully defeat, obstruct, or deceive any person in respect to his or her right of examination, or who shall corruptly and falsely mark, or report upon the proper standing of any person examined, or aid in so doing, or who shall furnish to any person any special or secret information for the purpose of either improving or injuring the prospects of any person so examined appointed, employed, or promoted. It was provided that after six months from the passing of the act, no officer or clerk was to be appointed until after passing examination, unless specially exempted by the act; and no person in the habit of using intoxicating beverages to excess is to be appointed to or retained in any employment to which the act applies.

Civil War, American, the war in the United States, caused by the attempt of the Southern States to establish an independent government under the name of the Confederate States of America.

The result of the war was to establish the fact that the United States is a nation, and that no State has the right to secede from the Union. It also resulted in the abolition of slavery, and the 13th Amendment to the Constitution, adopted after the war, extinguished slavery in the United States. During the Civil War there were 2,778,304 men mustered into service on the Union side and about 600,000 on the Confederate. The number of casualties in the volunteer and regular armies of the United States during the war, according to a statement prepared by the Adjutant-General's office, was as follows: Killed in battle, 67,058; died of wounds, 43,012; died of disease, 199,720; other causes, such as accidents, murder, Confederate prisons, etc., 40,154; total died, 349,944; total deserted, 199,105. Number of soldiers in the Confederate service who died of wounds or disease (partial statement), 133,821. Deserted (partial statement), 104,428. Number of United States troops captured during the war, 212,608; Confederate troops captured, 476,169. Number of United States troops paroled on the field, 16,431; Confederate troops paroled on the field, 248,599. Number of United States troops who died while prisoners, 30,156; Confederate troops who died while prisoners, 30,152.

Claflin, Mary Bucklin, an American prose-writer; born in Hopkinton, Mass., July, 1825. She was the wife of Governor Claflin, of Massachusetts. For 18 years she was a trustee of Boston University; and of Wellesley College from its foundation till her death, which occurred in Whitinsville, Mass., June 13, 1896.

Claflin University, a co-educational institution in Orangeburg, S. C.; organized in 1869, under the auspices of the Methodist Episcopal Church, exclusively for the colored race.

Clairvaux, a village of France, on the Aube, 10 miles S. E. of Barsur-Aube; is remarkable as the site of the once famous Cistercian Abbey, founded in 1115 by St. Bernard, who presided over it till his death in 1153, when he was buried in the church.

Clairvoyance, defined as the power of perceiving without the use of the organ of vision or under conditions in which the organ of vision with its natural powers alone would be useless. It comprises the sight of things past, present, or future, and various methods are observed in its performance.

Clam, the popular name of certain bivalvular shell-fish of various genera and species. The giant clam has the largest shell known, and the animal is used as food in the Pacific. The common American clam is found in gravelly mud, sand, and other soft bottoms, especially between high and low water mark. They are largely used for bait, and are a much-relished article of food.

Clan, a tribe or number of families, bearing the same surname, claiming to be descended from the same ancestor and united under a chieftain representing the ancestor.

Clapboard, a thin, narrow board commonly used for covering the sides of wooden buildings.

Clapperton, Hugh, an African traveler; born in Dumfriesshire, Scotland, in 1788. He was the first European who traversed the whole of Central Africa from the Bight of Benin to the Mediterranean. He died in Africa in April, 1827.

Claque, a body of hired applause-makers, openly employed in France and sometimes secretly resorted to elsewhere.

Clare, St., born in 1193, of a noble family of Assisi; in 1212 retired to the Portiuncula of St. Francis, and in the same year founded the order of Franciscan nuns. She died Aug. 11, 1253. THE NUNS OF THE ORDER OF ST. CLARA (also called the Poor Clares) at first observed the strictest Benedictine rule, but the austerity of this rule was mitigated by St. Francis in 1224, and further modified by Urban IV. in 1265. A large proportion of the nuns adopted Urban's rule.

Clarence, Duke of. See GEORGE. DUKE OF CLARENCE.

Clarendon, Constitutions of, a code of laws adopted in the 10th year of Henry II. (1164), at a council of prelates and barons held in the village of Clarendon, in Wiltshire, in January of the above year. Ten of the articles were condemned, and six allowed by Pope Alexander III. The six articles approved of were of comparatively slight importance, mostly confirming the privileges of the ecclesiastical order.

Clarendon, Edward Hyde, Earl of, Lord High Chancellor of England; born in Dinton, Wiltshire, in 1608. During the civil wars he zealously attached himself to the royal cause, was made successively chancellor of the exchequer and privy councillor. After the failure of the royalist arms he took refuge in Jersey, and then joined Prince Charles in Holland. He contributed to the Restoration, accompanied Charles II. to London, and was made Lord Chancellor. His daughter Anne was married to the Duke of York, afterward James II., and two daughters, Anne and Mary, both ascended the English throne. He died in Rouen in 1674.

Claret, a name given to wines of a light-red color.

Clarification, the act or process of making any liquor clear and bright by freeing it from visible impurities. It differs from purification in that a liquid, though clear to the sight, may still contain a large amount of impure matter.

Clarinet, or **Clarionet,** a musical instrument. It consists essentially of a mouth-piece furnished with a single beating reed, a cylindrical tube ending in a bell, and provided with 18 openings in the side, half of which are closed by the fingers and half by the keys.

Clark, Abraham, an American patriot; born in Elizabethtown, N. J., Feb. 15, 1726. He was a delegate to the Continental Congress and signed the Declaration of Independence. He aided in framing the Constitution of the United States. He died in Rahway, N. J., Sept. 15, 1794.

Clark, Alexander, an American clergyman and writer; born in Jefferson county, Ohio, in 1834. Died in Georgia, July 6, 1879.

Clark, Alonzo Howard, an American scientist; born in Boston, April 13, 1850. Since 1881 he has been connected with the Smithsonian Institution.

Clark, Alvan, an American astronomical-instrument maker; born in Ashfield, Mass., March 3, 1804. He was at one time a portrait painter. His attention was turned to telescope making and he achieved a world-wide reputation. He died in Cambridge, Mass., Aug. 9, 1887. His son, Alvan Graham Clark, born in Fall River,

Mass., July 10, 1832, was associated with his father and his brother George in the manufacture of telescopes. He died in 1897.

Clark, Champ, an American statesman; born in Anderson county, Ky., March 7, 1850; received a collegiate education; admitted to the bar in 1875; settled in Bowling Green, Mo., to practice in 1880; Democratic member of Congress, excepting one term, since 1893; minority leader there in 1908-1911; elected Speaker in 1911.

Clark, Charles Dickson, an American jurist; born in Laurel Cove, Tenn., Oct. 7, 1847. He practiced as a lawyer in his native State until 1895, when he was appointed Judge of the United States Court for two districts in Tennessee. He died in 1908.

Clark, Charles Edgar, an American naval officer; born in Bradford, Vt., Aug. 10, 1843. He entered the naval service in 1860; was promoted captain in 1896. In March, 1898, he took command of the battleship "Oregon," and when war with Spain was deemed inevitable he received orders to proceed to Key West, Fla., with all haste. After a most remarkable voyage of over 14,000 miles, he joined the American fleet in Cuban waters on May 26, and commanded his ship at the battle of Santiago. Was assigned to duty at the League Island navy yard; promoted rear-admiral June 16, 1902; and retired Aug. 10, 1905.

Clark, Daniel, a Canadian pathologist; born in Granton, Scotland, Aug. 29, 1836. He was taken to Canada when a child; practiced medicine in Ontario with great success. He has paid especial attention to the care of the insane and since 1875 he has been at the head of the Provincial Asylum for the Insane at Toronto.

Clark, Edward, an American architect; born in Philadelphia, in 1824. He studied architecture, and after serving as assistant was made chief architect of the United States Capitol in 1864, serving till his death in 1902.

Clark, Francis Edward, an American clergyman; born in Aylmer, Quebec, Sept. 12, 1851. He became pastor of a Congregational Church at Portland, Me., and there organized the first Young People's Society of Christian Endeavor, Feb. 2, 1881.

Clark, or **Clarke, George Rogers,** an American pioneer; born near Monticello, Va., Nov. 19, 1752. He studied surveying, and settled in Ohio, serving in the Indian wars of that time and region. He removed to Kentucky in 1775, procuring the organization of that territory. On the outbreak of the Revolutionary War he led the patriot army on the frontier, campaigning against the British throughout Illinois, Ohio and Kentucky. His success in this saved much territory to the colonies in the final treaty of peace with Great Britain. He died near Louisville, Ky., Feb. 18, 1818.

Clark, Henry James, an American naturalist and prose-writer; born in Easton, Mass., June 22, 1826; was associated in work with Agassiz for several years. He died in Amherst, Mass., July 1, 1873.

Clark, James Gowdy, an American balladist; born in Constantia, N. Y., June 28, 1830. He was well known as a concert singer and song writer. Among his most popular songs are "The Beautiful Hills," "Freedom's Battle Hymn," etc. He served as a volunteer during the Civil War, and died in Pasadena, Cal., in September, 1897.

Clark, John Bates, an American economist; born in Providence, R. I., Jan. 26, 1847. He is prominent as a political economist. In 1900 he was Professor of Political Economy at Columbia University.

Clark, John Emory, an American scientist; born in Northampton, N. Y., Aug. 8, 1832. After serving in the Civil War he became Professor of Astronomy at Antioch College. Since 1873 he has been Professor of Mathematics at the Sheffield Scientific School of Yale University.

Clark, Jonas Gilman, an American philanthropist; born in Hubbardston, Mass., Feb. 1, 1815. He is noted as the founder of Clark University, Worcester, Mass. He also conferred gifts on his native town. He died in Worcester, Mass., May 23, 1900, and bequeathed $200,000 to Clark University outright and $1,000,000 and the residue of his estate conditionally.

Clark, Lewis Gaylord, an American journalist and humorous writer; born in Otisco, N. Y., March 5, 1810.

In 1834 he became editor of the "Knickerbocker Magazine," and made it the foremost literary publication of that time. He died in Piermont, N. Y., Nov. 3, 1873.

Clark, Thomas March, an American clergyman; born in Newburyport, Mass., July 4, 1812. He entered the Presbyterian ministry and in 1836 became an Episcopalian priest. He was chosen Bishop of Rhode Island in 1854. He died Sept. 7, 1903.

Clark, Walter, an American jurist; born in Halifax, N. C., Aug. 19, 1846. He became a lawyer in 1868, judge of the Superior Court in 1885 and of the Supreme Court in 1889.

Clark, William, an explorer; brother of George Rogers Clark; born in Virginia, Aug. 1, 1770; emigrated with his family at the age of 14 to the falls of the Ohio, in Kentucky, on the present site of Louisville. In 1808 he was appointed in conjunction with Capt. Meriwether Lewis to the command of an expedition designed to explore the N. W. territory. His journal and the account kept by him of the astronomical observations made by him and Captain Lewis have been published. He was appointed in 1813 governor of the Northwest Territory and superintendent of Indian affairs, which offices he retained till 1820, when Missouri was created a State. Two years afterward he was again appointed commissioner and superintendent of Indian affairs. He died in St. Louis, Mo., Sept. 1, 1838.

Clark, William Andrews, an American capitalist; born near Connellsville, Pa., Jan. 8, 1839. He settled in Montana in 1863, and acquired a great fortune. He was the Democratic choice for United States Senator from Montana in 1890 and 1896, and in 1899 the Legislature elected him. In April, 1900, the United States Senate declared his election void; but his legislature reëlected him Jan. 16, 1901.

Clark, William Bullock, an American scientist; born in Brattleboro, Vt., Dec. 15, 1860. He became instructor in Geology at Johns Hopkins University in 1887, and since 1894 has been Professor of Geology there. In 1891 he was appointed Director of the Maryland Weather Service.

Clark, Willis Gaylord, an American poet, twin brother of Lewis Gaylord; born in Otisco, N. Y., March 5, 1810; died in Philadelphia, Pa., June 12, 1841.

Clarke, Augustus Peck, an American physician; born in Pawtucket, R. I., Sept. 24, 1833. He was an army surgeon during part of the Civil War, and subsequently entered private practice. He has been sent to every International Medical Congress since 1887, and since 1894 has been Dean of the College of Physicians and Surgeons in Boston.

Clarke, Benjamin Franklin, an American educator; born in Newport, Me., July 14, 1831. He became Pres. of Brown University in 1898.

Clarke, Sir Caspar Purdon, Anglo-American archæologist and art-critic, b. 1846. He studied art, architecture and archæology, became director of the London South Kensington Museum, and in 1905 of the Metropolitan Museum of Art, N. Y. C.; resigned the latter in 1910.

Clarke, Creston, an American actor; born in Philadelphia, Aug. 20, 1865. He made his début in London, 1882, and has attained success in tragic rôles.

Clarke, Edith Emily, an American librarian; born in Syracuse, N. Y., Nov. 5, 1859. She became chief cataloguer of public documents for the National Government in 1895, and librarian of the University of Vermont in 1898.

Clarke, Frank Wigglesworth, an American scientist; born in Boston, Mass., March 19, 1847. He has been chief chemist of the United States Geological Survey since 1883.

Clarke, James Freeman, an American Unitarian clergyman and author; born in Hanover, N. H., April 4, 1810; settled in Boston, Mass., in 1841, and was pastor of the Church of the Disciples which was organized especially for him, and of which he had charge till his death. From 1867–1871 he was Professor of Natural Religion University. He died in Boston, Mass., June 8, 1888.

Clarke, John Mason, an American scientist; born in Canandaigua, N. Y., April 15, 1857. He was Professor of Geology at Smith College and sub-

sequently became State Palæontologist of New York.

Clarke, John Sleeper, an American actor; born in Baltimore, Md., Sept. 3, 1833. He was a theatrical manager and a brother-in-law of Edwin Booth. He died in London, England, Sept. 14, 1899.

Clarke, McDonald, an American poet; born in Bath, Me., June 18, 1798. He was an eccentric character, familiarly known as "the mad poet"; the subjects of Clarke's verses were usually the belles of the city and topics of the day. He died in New York, March 5, 1842.

Clarke, Mary Bayard, an American author; born in Raleigh, N. C., about 1830. While living in Cuba she published verses, and after her return in 1855 she wrote "Reminiscences of Cuba."

Clarke, Rebecca Sophia ("Sophie May"), an American writer of children's stories; born at Norridgewock, Me., 1833; died in 1906.

Clarke, Richard Henry, an American author; born in Washington, D. C., July 3, 1827. He was made president of the Society of American Authors in 1891.

Clark University, a co-educational institution in Atlanta, Ga.; organized in 1870 under the auspices of the Methodist Episcopal Church.

Clark University, Worcester, Mass., an institution founded in 1887 by Jonas Gilman Clark (q. v.), and designed for advanced students in science. At the death of Mr. Clark in 1900, the University received a bequest of $2,500,000 for the establishment of an undergraduate department.

Claude Lorraine, a landscape painter whose real name was Claude Gelée, but who was called Lorraine from the province where he was born in 1600. He traveled in Italy, France and Germany, but settled in 1627 in Rome, where his works were greatly sought for, and where he lived much at his ease until 1682, when he died of gout. He excelled in luminous atmospheric effects, of which he made loving and elaborate studies. He made small copies of all his pictures in six books known as "Libri di Verità" (Books of Truth), which form a work of great value.

Claudianus, Claudius, a Roman poet of the 4th century. He stood high in favor with the Emperors Honorius and Arcadius, and was promoted to the highest honors of the state. He was the last of the non-Christian poets of Rome.

Claudius I., Tiberius Drusus Nero, sur-named Germanicus and Britannicus, the fourth Emperor of Rome; born in Lyons, B. C. 10. After spending 50 years of his life in a private station, he was, on the murder of Caligula, his nephew, A. D. 41, proclaimed Emperor by the soldiers, and confirmed in the sovereignty by the Senate. He died, A. D. 54, of poison administered by his second wife Agrippina.

Claudius, Appius, a Roman decemvir (451 and 450 B. C.), who gained the high favor of his fellow-citizens by his ability and activity. In the latter year he began to show his real aims toward absolute power. The indignation of the Roman populace reached a height on account of his tyrannical action toward Virginia, daughter of a plebeian named Lucius Virginius. The patrician gained possession of the maiden by pretending that she was the born slave of one of his clients. Her lover Icilius summoned her father from the army. To save his daughter from dishonor, the unhappy father seized a knife and slew her. The popular indignation and the father's appeal to the army overthrow the decemviri, and Appius was flung into prison, where he died by his own hand.

Clausel, Bertrand, a marshal of France; born in Mirepoix in 1773. He accompanied Junot and Massena to Spain in 1810. In 1813 Napoleon rewarded his valor by conferring on him the chief command of the forces in the N. of Spain. On the restoration of the Bourbons he came to the United States, and lived here for a long time, but when Charles X. was overthrown, in 1830, he received from Louis Philippe the command of the French troops in Algeria, which he retained till 1836. He died in 1842.

Clavichord, a key and stringed instrument, not now in use, being superseded by the pianoforte.

Clavicle, the collar-bone. It connects the upper limb with the trunk.

Clavijero, Francisco Xavier, Mexican historian, b. 1731; d. 1787.

Claxton, Kate (Mrs. Charles A. Stevenson), an American actress; born in New York city in 1848. She made her début at Daly's Theater before she was out of her teens, but her success dates from 1873. Since 1896 she has been touring the country in emotional plays.

Clay, the name of various earths, which consist of hydrated silicate of aluminum, with small proportions of the silicates of iron, calcium, magnesium, potassium, and sodium. Their tenacity and ductility when moist and their hardness when they are dry has made them from the earliest times the materials of bricks, tiles, pottery, etc.

Clay, Cassius Marcellus, an American diplomatist; born in Madison county, Ky., Oct. 19, 1810. He was an opponent of slavery and supported Lincoln for the Presidency. From 1862 to 1869 he was Minister to Russia. In 1886 he published his speeches. His old age was marked by eccentricity. He died in 1905.

Clay, Frederick, an English composer; born in Paris, Aug. 3, 1840. His most successful production was "The Black Crook." He died in London, Nov. 27, 1889.

Clay, Henry, an American statesman; born in "The Slashes" district, Hanover county, Va., April 12, 1777. Becoming a student of law, in his 21st year, he was admitted to the bar, and began practice at Lexington, Ky. His success was signal and immediate. About 1804 he entered politics, and in 1806 became United States Senator for a single year, to fill the unexpired term of Mr. Adair; and in 1811 was elected to, and chosen speaker of, the House of Representatives, remaining in that post till 1814, when he was sent abroad as one of the commissioners to negotiate the treaty of peace with England at Ghent. On his return he was again sent to Congress, and reëlected to his old position as speaker. He had a prominent share in the vehement discussions about slavery which were excited in 1820 by the question respecting the admission of Missouri into the Union; and he was (if not the author) the earnest advocate of the famous "compromise" on that subject. In 1824 he was a candidate for the Presidency against J. Q. Adams, General Jackson, and W. H. Crawford, and no choice being effected in the Electoral College, when the matter came up to the House of Representatives Clay and his friends voted for Mr. Adams, thereby securing his election. During the entire period of the Adams administration, 1825–1829, Clay was Secretary of State, and performed the duties of that office with consummate ability. In 1831, he returned to the United States Senate, and became the leader of the opposition to General Jackson's government, and strove, but ineffectually, against the removal of the deposits from the United States Bank. Through his influence also, the "Compromise Bill," as it was called, was passed through Congress, which put an end to the Nullification controversy by a partial abandonment of the protective system.

In 1832, he was again the candidate of his party for the presidency, though with little chance of success, owing to the overwhelming popularity of General Jackson, who was reelected. In March, 1842, he resigned his seat in the Senate, and retired into private life, till 1844, when he came forward a third time as a candidate for the Presidential chair. In one of the most exciting political contests that ever occurred in the United States he was again defeated, but by a very small numerical majority. The immediate consequence of this defeat was the annexation of Texas, a measure to which he had given his strenuous opposition. This was virtually the termination of his public career, though, in 1849, he consented to resume his seat in the Senate, in view of the perilous contest which was then impending between the slaveholding party and its opponents, on the California and territorial questions. He was the author of the celebrated "Compromise of 1850," as it was termed, through which, after a long and vehement struggle, this dispute was, for the time being, adjusted. The excitement and exhaustion occasioned by this last great controversy gave the final blow to his already enfeebled constitution, and he died in Washington, June 29, 1852.

Claymore, formerly the large two-handed, double-edged sword of the Scotch Highlanders; now a basket-hilted, double-edged broad-sword.

Claypole, Edward Waller, an American geologist born in England, June 1, 1835. He became Professor of Geology and Biology in the California Polytechnic Institute in Pasadena, and served also on the Geological Survey of Pennsylvania. He was a member of a number of geological societies in America, London, and Edinburgh, and of the American Association for the Advancement of Sciences. He died in Long Beach, Cal., Aug. 17, 1901.

Clayton, John Middleton, an American statesman; born in Sussex county, Del. in 1796. He was successively United States Senator, chief justice of his native State, and United States Senator a second time, when he became Secretary of State under Gen. Taylor. In this capacity he negotiated the Clayton-Bulwer Treaty. Clayton resigned his office on General Taylor's death in 1850, but remained in the Senate till his death, Nov. 9, 1856.

Clayton, Powell, an American military officer; born in Bethel, Pa., Aug. 7, 1833. When the Civil War broke out he entered the Union army as captain of the 1st Kansas Infantry, and in 1864 was promoted Brigadier- General of volunteers. At the close of the war he settled in Arkansas; was elected governor in 1868; United States Senator in 1871-1877; appointed Minister to Mexico in 1897, and raised to the rank of ambassador in 1899.

Clayton-Bulwer Treaty, a convention between the United States and Great Britain, concluded April 19, 1850, and deriving its name from John M Clayton, Secertary of State of the United States, and Sir Henry Bulwer, British Minister of Washington. The object of the treaty was to aid the construction of an interoceanic canal on either the Nicaragua or Panama routes.

Clearance of Vessels, the examination of them by the proper custom-house officers, and the giving of a certificate that the regulations have been duly complied with.

Clearing-house, a financial institution which makes daily adjustment of debits and credits among the banks constituting its membership.

Cleary, James Vincent, a Canadian clergyman; born in Waterford, Ireland, Sept. 18, 1828. In 1880 was appointed Bishop of Kingston, Canada, the see being made an archbishopric in 1889.

Cleef, (I.), Joseph van, surnamed the Fool; born in Antwerp in 1480, one of the most celebrated painters of his time. He died insane in 1529. (2) John, a painter; born in Rome in 1646, belongs to the Flemish school. He died in 1716.

Clef, a character placed at the beginning of a stave, to show the elevation of that particular stave in the musical system, and to define the position and name of each note.

Clematis. See TRAVELER'S JOY.

Clemenceau, Georges Benjamin, French statesman and author, b. Mouilleron-en-Pareds, 1841, became a physician, mayor of Montmartre 1870, deputy 1871; championed Dreyfus and as Minister of Interior directed the separation of Church and State.

Clemens, Samuel Langhorne, best known by his pen-name MARK TWAIN, an American humorist, born in Florida, Mo., Nov. 30, 1835. After a common-school education, he was in turns compositor, Mississippi pilot, Confederate soldier, a Nevada newspaper reporter, gold-miner, and a lecturer. He sprang into celebrity in 1869 with the "Innocents Abroad." Also wrote "A Tramp Abroad," "Huckleberry Finn," "Pudd'nhead Wilson," etc. As a writer he possessed a remarkable fund of humor. Died April 20, 1910.

Clement VII., Pope, (Giulio de Medici), nephew of Lorenzo the Magnificent, and cousin of Leo X., succeeded Adrian VI. in 1523. It was during his reign that schism occurred which ultimately resulted in the separation of England from the Romish Church. He died in 1534, and was succeeded by Paul III.

Clement, XI., (Giovanni Francesco Albani), born in Pesaro, 1649, succeeded Innocent XII., 1700. He issued the famous Unigenitus bull. Died in 1721, succeeded by Innocent XIII.

Clement XIII., (Carlo Rezzonico), born in Venice, 1693, succeeded Benedict XIV., 1758. The Jesuits having been expelled from France, Spain, Portugal, and Naples, he made great but useless efforts to reinstate them. He died in 1769. He was succeeded by Clement XIV.

Clement XIV., (Giovanni Vincenzo, Antonio Ganganelli), born in St. Arcangelo, 1705. Being of a conciliating disposition, he lived on good terms with all the European courts. He died in 1774, and was succeeded by Pius VI.

Clément, Jacques, the assassin of Henry III. of France; born in 1567. Having fatally stabbed the king, he was at once killed by the courtiers; but the populace, instigated by the priests, regarded him as a martyr; and Pope Sixtus V. even pronounced his panegyric.

Clement, William Henry Pope, a Canadian lawyer; born in Vienna, Ont., May 13, 1858. He has written "The Law of the Canadian Constitution" (1892), a work that was made a text-book in the principal colleges and universities of the Dominion.

Clementi, Muzio, an Italian pianist and composer; born in Rome in 1752. He represented perhaps the highest point of technique of his day, and his influence on modern execution has led to his being characterized as "the father of pianoforte playing." He died in England in 1832, and was interred in Westminster Abbey.

Clemson Agricultural College, an educational (non-sect.) institution in Clemson College Station, S. C.; organized in 1890.

Cleon, an Athenian demagogue, originally a tanner by trade. He was sent in 422 against Brasidas, but allowed himself to be taken unawares, and was slain while attempting to flee.

Cleopatra. Among several Egyptian princesses of this name, the most renowned was the eldest daughter of Ptolemy Auletes, wife of his eldest son Ptolemy, with whom she shared the throne of Egypt. She accompanied Antony on his march against the Parthians, and when he parted from her on the Euphrates he bestowed Cyrene, Cyprus, Cœlosyria, Phœnicia, Cilicia, and Crete on her, to which he added part of Judea and Arabia at her request. The war between Augustus and Anthony commenced, and at Actium the fleets met. Cleopatra, who had brought Antony a reinforcement of 60 vessels, suddenly took to flight, and thus caused the defeat of her party. They fled to Egypt, and declared to Augustus that if Egypt was left to Cleopatra's children they would thenceforth live in retirement. But Augustus demanded Antony's death and advanced toward Alexandria. Antony threw himself upon his sword, and Augustus succeeded in getting Cleopatra into his power. She still hoped to subdue him by her charms; but her arts were unavailing, and becoming aware that her life was spared only that she might grace the conqueror's triumph, she determined to escape this ignominy by a voluntary death. She ordered a splendid feast to be prepared, desired her attendants to leave her, and put an asp, which a faithful servant had brought her, concealed among flowers, on her arm, the bite of which caused her death (30 B. C.). At the time of her death she was 39 years old, and had reigned over Egypt 22 years.

Cleopatra's Needles, two obelisks that were set up at the entrance of the Temple of the Sun, in Heliopolis, Egypt, by Thothmes III., about 1831 B. C. In 1819 one of these obelisks was presented by the Egyptian Government to England, but as no one knew how to move them, it was not taken to London until 1878. Later the other obelisk was presented to the United States, and is now in Central Park, New York city.

Clergy, the body or order of men chosen or set apart to the service of God, in the Christian Church; in contradistinction to the lay worshipers.

Clerk, one who has charge of an office or department, subject to a higher authority as a board, corporation, etc.; a secretary, as, the Clerk of the House of Representatives or Senate; Clerks of the various courts, clerks of cities, etc.

Clermont, The, the name given by Robert Fulton to the steamboat in which he made his first trip from New York city to Albany in 1807.

Cleveland, city, county-seat and port of entry of Cuyahoga Co., O. It is the first city in population and importance in Ohio and seventh in the United States in 1900. The city has a harbor secured by artificial breakwaters. Pop. (1910) 560,663. The principal industries, according to the value of the products, are the manufacture of iron and steel ($24,276,197); foundry and machine shop products ($15,428,053); slaughtering and meat packing, wholesale ($7,514,470); malt liquors ($4,033,915). Cleveland is the center of the malleable iron trade in the United States, and surpasses all other lake ports in the building of iron and steel vessels, some having been built 380 feet in length and costing $500,000. Cleveland was settled in 1796, under the direction of Gen. Moses Cleaveland, agent of the Connecticut Land Company. It was situated in the "Western Reserve" of the State of Connecticut, and its early settlers were mostly from that State.

Cleveland, Grover, an American statesman; twice President of the United States; born in Caldwell, Essex Co., N. J., March 18, 1837; son of a Presbyterian clergyman. He settled in Buffalo and studied law, and in 1863 became assistant district attorney of Erie Co., N. Y. After becoming in succession sheriff and mayor of Buffalo, he was chosen governor of New York in 1882. In 1884 he received the Democratic nomination for the presidency, and was elected, defeating James G. Blaine. He was renominated in June, 1888, but was defeated by Benjamin Harrison, Nov. 6 following. After a successful law practice of four years he was again nominated by the Democratic National Convention of 1892, in spite of the opposition of the delegates from his own State, and elected by very large majorities. Some of the measures of his administration were: The settlement of the Venezuelan boundary question with Great Britain; the consolidating of post-offices in large centers so as to increase the scope of the civil service rules; and most notably the conclusion in January, 1897, of a general arbitration treaty with Great Britain, which, however, was rejected by the Senate. He married Frances Folsom in 1886, and retired to private life at Princeton, N. J., on the close of his term, dying there, June 24, 1908.

Cleveland, Rose Elizabeth, an American prose-writer, sister of Grover Cleveland; born in Fayetteville, N. Y., 1846. After the inauguration of her brother (1885) she became the "mistress of the White House," remaining there until 1886.

Cleves, (German Kleve), a town in Rhenish Prussia. In the center of the town rises the old and renowned Schwanenburg (Swan's Castle), the ancient residence of the dukes of Cleves, founded, says tradition, by Julius Cæsar. Prussia (Brandenburg) acquired Cleves in 1609. Pop. 10,936.

Clianthus, a genus of plants, having crimson, scarlet, and flesh-colored flowers.

Clients, in ancient Rome, citizens of the lower ranks who chose a patron from the higher classes, whose duty it was to assist them in legal cases, to take a paternal care of them, and to provide for their security. In modern times the word client is used for a party to a lawsuit who has put his cause into the hands of a lawyer.

Cliff Dwellers, a race of Indians who lived in the cliffs bordering on the valleys of the Rio Grande and Rio Colorado. Their homes were built in the recesses of these cliffs at a height often several hundred feet from the ground. How the inhabitants subsisted is not known, but probably mainly by hunting and fishing, as the soil about these localities is barren.

Climacteric, critical, dangerous, pertaining to the great climacteric, or to any one of lesser peril. A climacteric disease is a disease affecting both men and women about the 63d year of age, but varies in the time of its coming, according to the constitution of the individual. Its most common predisposing cause is mental anxiety or suffering.

Climate, in its most general acceptation, embraces all those modifications of the atmosphere by which our organs are sensibly affected; such as temperature, humidity, variations of barometric pressure, the tranquillity of the atmosphere or effects

of winds, the purity of the air, or its mixture with gaseous emanations more or less salubrious; and lastly, that serenity of the sky so important on account of the influence which it exercises not only on the development of organic tissues in vegetables and the ripening of fruits, but also on the ensemble of moral sensations which mankind experience in the different zones.

Climax (a gradual ascent), a rhetorical figure in which a series of propositions or objects are presented in such a way that the least impressive comes first, and there is a regular gradation from this to the most impressive or final.

Climbing Perch, an Indian species of perch which quits the water and makes its way for considerable distances over the land. It is even said to climb trees, whence its specific name.

Clinch, Charles Powell, an American poet and play-writer; born in New York City, Oct 20, 1797. He died in New York, Dec. 16, 1880.

Clinton, city and capital of Clinton county, Ia.; on the Mississippi river, here crossed by three bridges, and on several trunk line railroads; 60 miles S. E. of Dubuque; is the trade center for a large section; manufactures iron bridges, boilers, saws, paper, wagons, and furniture; has large packing houses and railroad shops; and is the seat of Wartburg College (Luth.). Pop. (1910) 25,577.

Clinton, De Witt, an American lawyer and statesman; born in Little Britain, N. Y., March 2, 1769. He was successively United States Senator from New York; mayor of New York City; lieutenant-governor; candidate for president and governor. He was the chief originator of the Erie Canal (1817-1825). He died in Albany, N. Y. Feb. 11, 1828.

Clinton, George, Vice-President of the United States; born in Little Britain, Ulster Co., N. Y., July 26, 1739. He was a member of Congress in 1776, and voted for the Declaration of Independence, but was summoned to the army as Brigadier-General before it was prepared for signature. In 1777 he was elected governor and at the same time lieutenant-governor of the State of New York, which latter office was, on his acceptance of the other, conferred upon Mr. Van Cortlandt. He held the office of governor during the next 18 years. He was again chosen governor after spending five years in private life, in 1801, and in 1804 became Vice-President of the United States. He died in Washington, D. C., April 20, 1812.

Clinton, Sir Henry, a British general, born about 1738; was sent in 1775 with the rank of Major-General, to America, where he distinguished himself in the battle of Bunker Hill. He defeated the Americans at Long Island, but had to evacuate Philadelphia to Gen. Washington. In 1782 he returned to England. He died in Gibraltar, Dec. 23, 1795.

Clinton, James, an American military officer; born in Little Britain, Ulster Co., N. Y., Aug. 9, 1736. He accompanied Montgomery to Quebec in 1775, and was appointed Brigadier-General the following year. He afterward served against the Indians under Sullivan, in 1779, and was present at the surrender of Cornwallis. He died Dec. 22, 1812.

Clio, glory, renown, the muse of history and epic poetry, represented as bearing a half-opened roll of a book.

Clive, Robert, Lord Clive and Baron of Plassey, an English soldier and statesman; born in Shropshire, Sept. 29, 1725. His military successes established British predominance in India. Having been censured by Parliament for alleged wrongdoing in India he committed suicide Nov. 22, 1774.

Cloaca, a sewer, an underground drain or conduit. The Roman Cloaca Maxima is said to have been constructed about 588 B. C. and is still used in the drainage of Rome.

Clock, an instrument for measuring and indicating the time of day. The first measure of time was the sundial, followed by the hour-glass; next the clepsydra, or water clock. These have been in use 2,000 years. The next improvement was the substitution of a weight for the water. A pendulum was added about A. D. 1000. The anchor escapement, invented in 1666-1680, and the dead

beat escapement in 1700, gave a new impulse to clockmaking. There has been no material change in the principles on which clocks are made, except in the substitution of steel springs for weights and in the finer movements, and in the addition of the hair-spring to regulate still further the action of the escapement or pendulum, since 1700.

Cloister, the square space attached to a regular monastery or large church which forms part of the passage of communication from the church to the other parts of the establishment.

Clootz, Jean Baptiste de, a Prussian baron, one of the wildest and most violent actors in the early scenes of the French Revolution. He was born in Cleves in 1755. He was in 1792 sent to the French National Convention as deputy from the department of the Oise. He was among those who voted for the death of Louis XVI. Becoming an object of suspicion to Robespierre, he was arrested, and guillotined in 1794.

Closure, a rule in British parliamentary procedure adopted in 1887 by which, at any time after a question has been proposed, a motion may be made with the speaker's or chairman's consent "That the question be now put," when the motion is immediately put and decided without debate or amendment.

Cloudberry, or **Mountain Bramble,** a fruit found in America, Europe, and Asia of the same genus with the bramble or blackberry.

Cloud Burst, a sudden and violent rainfall, covering a limited territory and of brief duration. It is caused by the contact of a warm current of air, surcharged with moisture, with a cold current, the result being swift condensation and immediate precipitation of the water formed.

Clouds, formations owing their origin to aqueous vapor diffused in the atmosphere, supplied from the evaporation of the sea and other water surfaces, under the influence of solar heat, and diffused through the agency of winds. Air can absorb, or hold, only a certain amount of invisible vapor. Should the temperature, under this condition, be lowered, condensation takes place, and clouds are formed. Should the cooling continue, these globules unite and are finally precipitated in the form of rain, and, with sufficiently reduced temperature, as snow. Mists and fogs are simply incipient states of clouds, and when in contact with cold bodies produce, by deposition of moisture, dew, and hoar frost. Tropical countries generally have a dry and wet season, and there are other localities where rain may fall irregularly at all seasons. Fifty inches per annum may be regarded as a moderate rainfall, and below 20 inches a very light one, and generally insufficient for agricultural purposes.

Cloud, St., a town of France, in the department of Seine-et-Oise, on the border of Paris. The historical associations of this place are intimately connected with the royalty of France. Its palace, which is very beautiful, was originally the property of the Dukes of Orleans, and was a summer residence of the Kings of France. Here, in 1799, Napoleon I. dismissed the Assembly of Five Hundred, and caused himself to be proclaimed first consul; and in 1830, Charles X. put his signature to the ordinances which cost him his throne.

Clove Bark, a name vaguely used for various aromatic drugs; some belonging to the clove, others to the cinnamon alliance.

Clover, or **Trefoil,** a genus of plants containing a great number of species, natives chiefly of temperate climates, and some of them very important in agriculture as affording pasture and fodder for cattle.

Cloves, a very pungent and aromatic spice, the dried flower-buds of a tree a native of the Molucca Islands, belonging to the myrtle tribe, now cultivated in Sumatra, Mauritius, Malacca, Jamaica, etc. Every part of the plant abounds in the volatile oil for which the flower-buds are prized.

Clovis I., King of the Franks, usually called the founder of the French monarchy; born in 467. He was the son of Childeric I. and succeeded him in 481. During his reign he recovered from the Romans all their possessions in Gaul. He disgraced himself by the unjust and cruel measures he took to get rid of several of his kin-

dred, possible competitors for the crown. He died in Paris, in 511, after dividing his kingdom between his four sons. He was the first Christian king of France.

CLOVES.

Clowes, William Laird, an English naval critic and miscellaneous writer; born in London, Feb. 1, 1856. Was correspondent for various newspapers. His works include "The Naval Pocket Book," "Black America," etc.

Clown, the buffoon or practical jester in pantomime and circus performances.

Club, an association or number of persons combined for the promotion of some common object, whether political, social or otherwise. Well-established clubs have been organized in all the leading cities of the United States, and clubs exclusively for women have become numerous, one of the most notable pioneers in this line being the Sorosis of New York.

Clubbing, a diseased condition of plants of the cabbage family produced by the larvæ of insects, consisting in the lower part of the stem becoming swollen.

Club Foot, a short, deformed foot. In 1831 Dr. Stromeyer cured a man of this defect by dividing the tendons of the contracted muscles with a very thin knife. There are three principal forms: When the foot is turned inward. When it is turned outward. When the patient can only put the toes on the ground.

Clugny, or **Cluny,** a town of France in the department of Saone-et-Loire, 46 miles N. of Lyons. The monks of the order of Cluny were the first branch of the order of Benedictines. The Benedictines having become very lax in their discipline, St. Odo, abbot of Cluny in 927, not only insisted on a rigorous observance of the rules by the monks under him, but introduced new ceremonies of a severer nature. The order was abolished in 1790.

Cluricaune, in Irish mythology, an elf of evil disposition who usually appears as a wrinkled old man, and has knowledge of hidden treasures.

Cluseret, Gustave Paul, a French officer and Communist; born in Paris, June 13, 1823; he came to the United States soon after the breaking out of the Civil War, and after serving on General McClellan's staff became a Brigadier-General. Subsequently he returned to Paris, and was War Minister of the Commune in April, 1871. From Paris he fled to England and Mexico, and was condemned to death by military tribunal in 1872. He was, however, pardoned and allowed to return to Paris in 1880. He died in Toulon, Aug. 23, 1900.

Clustered Column, in architecture, a pier which appears, to consist of several columns or shafts clustered together.

Clutha, the largest river in New Zealand, in the S. part of the South Island. It receives the waters of Lakes Hawea, Wanaka, and Wakatipu, and flows in a S. E. direction, having a length of 150 miles. It is called also Molyneaux.

Clyde, a river of Scotland, which has its sources amid the hills that separate Lanarkshire from the counties of Peebles and Dumfries and

forms an extensive estuary before it enters the Irish Sea. The Clyde, by artificial deepening, has been made navigable for large vessels up to Glasgow.

Clymer, Ella Dietz, an American poet; born in New York. She began her career as an actress in 1872; in 1881 she abandoned the stage. She was one of the founders of the "Sorosis" Society, and its president in 1889.

Clymer, George, an American patriot; born in Philadelphia in 1739. He was prominent in public affairs prior to the Revolution, and became one of the first Continental treasurers. He was chosen in 1776 to succeed a member of the Continental Congress who had refused to sign the Declaration of Independence, to which he promptly affixed his signature. In 1787 was a member of the convention that framed the Constitution of the United States. He was a member of the First Congress of the United States. He died in Moinsville, Pa., Jan. 23, 1813.

Coach, a large, close, four-wheeled vehicle, generally constructed to carry passengers inside and outside; used for purposes of State for pleasure, or for traveling. Italy, France, Spain, and Germany all claim the honor of having invented coaches. In the first half of the 19th century, the greater part of the passenger traffic of the United States was by coaches.

Coadjutor, a Latin term, nearly synonymous in its original meaning with assistant. The term is especially applied to an assistant bishop.

Coagulation, the act or process of being coagulated, or of changing from a liquid to a curd-like semi-solid state, produced without evaporation and without crystallization.

Coahuila, a State of Mexico, separated from Texas by the Rio Grande, has an area of 59,280 square miles, partly mountainous. The climate is healthy, though extremes of heat and cold are usual. The state is rich in minerals. It has a valuable pasturage, and in many parts a most fertile soil; but no district of Mexico is so little known, or has been less developed. Pop. (1900) 280,899; capital, Saltillo.

Coal, a solid mineralized vegetable matter that can be used for fuel. The entire coal area of the United States is about 200,000 square miles. But though the coal measures of the States are of vast extent there has been doubt whether the amount of workable coal is as great as has been stated. The coal areas of the United States are seven in number. They are: The Massachusetts and Rhode Island area, the Allegheny area, the Michigan area, the Illinois, Indiana, and Western Kentucky area, the Iowa, Missouri, Kansas, Arkansas, and Texas area, those of the Rocky mountains and of the Pacific Coast. Excluding these last from the calculation, we have a total area of 191,200 square miles underlaid by coal-bearing strata. Of the two generally recognized classes of coal, anthracite and bituminous, the former composes the whole of the coal of the Massachusetts and Rhode Island area, and of a part of the Pennsylvania and Colorado. With slight exceptions, bituminous coal occupies the rest of the districts named. The greatest development of workable coal strata is in the Allegheny mountains and to the W. of them, extending continuously from Pennsylvania and Ohio to Alabama.

Commercially speaking, the anthracite division may be said to consist of Pennsylvania alone, although a small amount of anthracite coal is mined in Colorado. The original coal beds of New England have been metamorphosed into graphite and graphitic coal. This area is confined to Eastern Rhode Island, and the counties of Bristol and Plymouth, Mass. The product mined from the beds requires a considerable degree of heat for combustion, and can be used only with other combustible material or under an intense draft or blast. The entire annual output is but a few thousand tons. The anthracite region of Pennsylvania as a whole, has a maximum length of about 115 miles, a maximum breadth of about 40 miles; area about 1,700 square miles; but the area underlaid by workable coal beds is only about 470 square miles.

The bituminous coal areas of the United States may for convenience be grouped into seven divisions: The

Triassic area, composed chiefly of the Richmond basin, in Virginia and the Deep River and the Dan River fields, in North Carolina. No extensive mining operations are now carried on in this area. The Appalachian field, immediately W. of the E. border of the Appalachian range, and extends from New York on the N. to Alabama on the S., its direction being N. E. and S. W.; length, about 900 miles; width, from 30 to 180 miles, the best and most productive beds being those of the Pittsburg district and of West Virginia. The N. bituminous area: All in Central Michigan. The coal here found is used mostly for local supply. The central area: Three-fourths are in Illinois, less than one-sixth in Indiana, and about one-twelfth in Western Kentucky. The W. field: The most extensive mining operations have been carried on in Iowa and Missouri; its area is greater than that of any other one coal field in the United States. The Rocky Mountain and the Pacific: California, Oregon, and Washington.

According to Government reports, the aggregate production of anthracite and bituminous coal in the United States amounted in 1900 to 240,965,917 long tons (or 269,881,827 short tons), with a value of $306,891,364.

Dr. Ferdinand Fischer, of Gottingen, concludes that the attainable coal supply of the whole of America is at least 684,000,000,000 tons. Germany's supply amounts, in round numbers, to 160,000,000,000 tons; that of Great Britain to 81,500,000,000 tons; that of Austria-Hungary, Belgium, and France together to 17,000,000,000 tons. The coal deposits of Russia are little known, though the resources are undoubtedly enormous. All our later information with regard to China has tended to confirm the conclusions reached by Von Richthofen as to the enormous wealth in coal of that empire. His figures are reproduced by Dr. Fischer at 630,000,000,000 tons of anthracite and an equal quantity of bituminous coal.

Japan has large coal resources, particularly in the S. province of Kiushiu. Borneo is rich in coal formations, as also is New South Wales. Africa and South America are poorer in coal than any of the other continents.

In the United States the output of coal has reached 480,363,424 short tons, valued at $614,798,898, in a single year, Pennsylvania leading; and the world's production has reached 1,167,941,188 short tons in a single year, the United States, Great Britain, and Germany leading.

Coal Gas, a mixture of gases produced by the destructive distillation of coal at regulated temperatures. It is used in lighting streets, houses, etc., and for cooking and heating purposes. Coal gas is colorless and has a disagreeable smell.

Poisoning by coal gas is known only as an accident. Occasionally sudden fatal consequences ensue among workmen from exposure to a sudden rush of undiluted gas from gasometers and mains. More commonly, slowly fatal cases result from the gas-tap in a bedroom being left open carelessly.

Coaling Stations, depots established by maritime governments at various important points throughout the world, where the ships of the navy may obtain supplies of coal. The utility of such stations, when properly fortified, as points of refuge, defense, and repair for warships in the event of war can hardly be over-estimated.

Coal Tar, a thick, sticky, dark-colored substance, produced in the destructive distillation of bituminous coal. It is of commercial value in the production of aniline and its dyes.

See ANILINE.

Coan, Titus, an American missionary; born in Killingworth, Conn., Feb. 1, 1801. After spending several months on a dangerous expedition in Patagonia, he went to the Sandwich Islands, occupying the Hilo station 47 years, and in that time converting 14,000 natives. He died at Hilo, Hawaii, Dec. 1, 1882.

Coast and Geodetic Survey, United States, a branch of the Treasury Department charged with the survey of the Atlantic, Gulf, and Pacific coasts of the United States, including the coast of Alaska; the survey of rivers to the head of tide-

water or ship navigation; deep-sea soundings, temperature and current observations along the coasts and throughout the Gulf Stream and Japan Stream flowing off from them; magnetic observations and gravity research; determinations of heights by geodetic leveling, and of geographical positions by lines of transcontinental triangulation, which with other connecting triangulations and observations for latitude, longitude, and azimuth, furnish points of reference for State surveys and connect the work on the Atlantic coast with that on the Pacific.

Coast Defense, a system of fortifications with auxiliary mines and torpedoes to protect a country from hostile attack or occupation on its coast lines.

Coast Guard, a British force formerly under the customs department, and intended only to prevent smuggling, but now organized also for purposes of defense and governed by the admiralty.

Coati, or **Coati-Mondi,** a name of South American plantigrade carnivorous mammals, belonging to the bears, but recalling rather the raccoon or civet, and having a long proboscis or snout.

Coatzacoalcos, a river of the Isthmus of Tehuantepec in Mexico; is navigable for large vessels for 30 miles, and is part of a route surveyed for an inter-oceanic canal

Cobalt, a town in the Nipissing district of Ontario, Canada; on Lake Nipissing and the Northern Ontario railroad; 10 miles S. of New Liskeard, and about 300 miles N. of Toronto; is the center of the Dominion's newly-developed silver-mining region; had an output of about 30,000 tons from 32 mines, valued at about $12,000,000, in 1909. The town was settled early in 1906, was wiped out by fire, and was rapidly rebuilt.

Cobb, Howell, an American statesman; born in Cherry Hill, Ga., Sept. 7, 1815. In 1843 was elected to Congress as a Democrat. He served eight years and was Speaker of the House one term. Elected governor of Georgia in 1851, he returned to Congress in 1855, and was made Secretary of the Treasury by President Buchanan in 1857, resigning in 1860 to urge secession. He held a Confederate military commission in the Civil War, but saw little service. He died in New York city, Oct. 9, 1868.

Cobb, Sylvanus, an American novelist; born in Waterville, Me., 1823. He was a most prolific story-writer. He died in Hyde Park, Mass., July 2, 1887.

Cobden, Richard, an English politician, the "Apostle of Free Trade," born in Sussex, June 3, 1804. Through his life he rigidly advocated non-intervention in the disputes of other nations, and maintaining it to be the only proper object of the foreign policy of England to increase and strengthen her connections with foreign countries in the way of trade and peaceful intercourse. He died in London, April 2, 1865.

Cobden Club, an association formed about a year after the death of Mr. Cobden for the purpose of encouraging the growth and diffusion of those economical and political principles with which Mr. Cobden's name is associated.

Cobijai, or **Puetro La Mar,** a seaport formerly belonging to Bolivia, now in the territory of Antofagasta, Chile.

Coble, or **Cobble,** a low, flat-floored boat with a square stern, used in salmon-fishery.

Coblentz, or fortified town of Germany, capital of Rhenish Prussia, and connected by a pontoon-bridge over the Rhine with the fortress of Ehrenbreitstein, this, along with its other fortifications, rendering it one of the strongest places in Germany, and capable of accommodating 100,000 men. Pop. 39,633.

Cobra de Capello, that is, "serpent with a hood"; the Portuguese name of an East Indian serpent, and of an African serpent of the same genus, the asp, both reptiles of the most venomous nature. The species of the viper kind are all remarkable for the manner in which they spread out or distend the sides of the neck and head when disturbed or irritated.

Coburg, the name of a family in Germany, dating from the 5th century, noted for intermarriages with

royal houses, especially during the 19th century.

Coburg, or Koburg, a town of Germany, capital of the duchy of Saxe-Coburg-Gotha. On an eminence overhanging the town is the ancient castle or fortress, from which extensive views are obtained. It is now converted into a museum, with extensive collections of various kinds, including relics and writings of Luther, who resided here for three months in 1530 and wrote some of his works. Pop. (1900) 20,460.

Coca, the dried leaf of a shrub, 4–8 feet high, growing wild in Peru, and cultivated there on the Andes, between 2,000 and 5,000 feet high. It constitutes a stimulant which tends to enslave those who use it to a greater extent, it is said, than opium in China, or strong liquor here.

Cocaine, an alkaloid obtained from coca leaves, and surgically employed as a powerful local anæsthetic. Its abuse is demoralizing.

Cocculus Indicus, a popular name given to a species of plant which furnishes certain dried berries constituting an article of commerce. They are imported from the East Indies. It has been used in form of ointment in certain skin diseases, and in decoction for killing vermin in the hair of children and animals. They are commonly known in the United States as fish-berries.

Coccus, a spherical shaped bacterium hurtful to greenhouse plants, and called by gardeners, bugs.

Coccyx, the lowermost portion of the vertebral column, consisting of four, or more rarely five or three, divided terminal vertebræ.

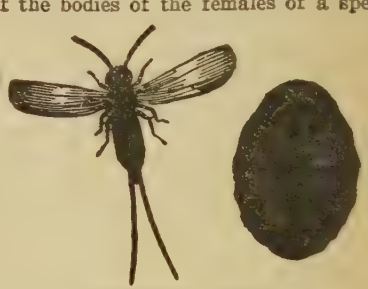
Cochabamba, a central department of Bolivia, with offshoots of the Eastern Cordilleras, and extensive plateaus. Agriculture and cattle-raising are the chief occupations. Area, 23,320 square miles; pop. (1900) 326,163.

Cochin, a seaport of Hindustan. Its harbor, though sometimes inaccessible during the S. W. monsoon, is the best on this coast. Cochin was one of the first places in India visited by Europeans. In 1663 the Dutch took the place, in 1795 the British. Pop. 17,600.

Cochin China, a country forming part of the peninsula of Southeastern Asia, and generally regarded as comprising the whole of ANAM and Lower or French Cochin, China. The territory covers 23,082 square miles, and in 1897 had an estimated pop. of 2,034,453.

Cochin China, a term applied to a variety of the domestic fowl, imported from Cochin China.

Cochineal, a dye-stuff employed in dyeing scarlet and crimson; consists of the bodies of the females of a species of Coccus, which feeds upon plants of the Cactus family. The cochineal insect is a small creature, a pound of cochineal being calculated to contain 70,000 in a dried state.



COCHINEAL INSECT.
Female and Male, the latter with wings.

Cochrane, Thomas, 10th Earl of Dundonald; a British naval officer; born in Amesfield, Scotland, Dec. 14, 1775. In 1814 he was accused of conspiring to circulate a false report of Napoleon's death for speculative ends, and though he protested his innocence he was imprisoned for a year, fined, and was expelled from the navy and the House of Commons. In 1832 he was cleared of the charges brought against him in 1814, and was restored to the Order of the Bath and to the English navy. While in disgrace in England he performed great exploits as commander of the Chilian navy in Chile's war of independence. He died in Kensington, England, Oct. 31, 1860.

Cock, the full grown male of the domestic fowl, colloquially known as the "rooster" It is believed

that the race was first domesticated in the Eastern countries, and gradually extended to the rest of the world.

Cockade, a plume of cock's feathers, worn by Americans in the Revolution as a patriotic emblem. A bow of colored ribbon was adopted for the cockade in France, and during the French revolution the tricolored cockade — red, white, and blue — became the National distinction. National cockades are now to be found over all Europe.

Cockatoo, a genus of birds of the parrot family, but distinguished from true parrots by the greater height of the bill, and its being curved from the base, and by the lengthened, broad, and rounded tail. The true cockatoos are also all of generally whitish plumage, but often finely tinged with red, orange, and other colors, or mixed with these colors in more brilliant displays.

Cockatrice, a fabulous monster anciently believed to be hatched from a cock's egg. It is often simply another name for the basilisk.

Cockburn, Sir Alexander, an English jurist; born Dec. 24, 1802; studied at Cambridge; was called to the bar in 1829, and soon became distinguished as a pleader before Parliamentary committees. In 1847 he became member of Parliament for Southampton in the Liberal interest; became Solicitor-General and was knighted in 1850; was made Chief-Justice of the Common Pleas in 1856; and Lord Chief-Justice in 1859. He represented Great Britain at the Geneva arbitration in the "Alabama" case. He died Nov. 20, 1880.

Cockburn, Sir George, a British naval officer; born about 1772. He entered the navy in early youth, and about 1812 obtained the rank of rear-admiral. He took part in the capture of Washington City in 1814 and conveyed Napoleon to Saint Helena in 1815. He died in 1853.

Cock Chafer, the popular name of a beetle in England. It crawls awkwardly on the ground, and when it flies does so heavily and with a whirring hum.

Cocker, a dog of the spaniel kind, allied to the Blenheim dog, used for raising woodcocks and snipes from their haunts in woods and marshes.

Cockerell, Charles Robert, a British architect; born in 1788. His excavation of the Temple of Zeus at Ægina, in 1811, contributed largely to the British Museum. He died in 1863.

Cock Fighting, an amusement practiced in various countries, first perhaps among the Greeks and Romans. It is a favorite sport in the island of Cuba, in the Philippines, and in some of the United States, though in the latter it is now generally prohibited by local laws.

Cockle, the popular name of the shells classed by naturalists under the genus Cardium. Their appearance is familiar. The most common one is found in sandy bays near low water.

Cockney, a nickname for a London citizens. The word is often, but not always, employed slightingly as implying a peculiar limitation of taste or judgment.

Cock of the Plains, a large North American species of grouse, inhabiting desolate plains in the W. States.

Cock of the Rock, a South American bird of a rich orange color with a beautiful crest, belonging to the manakin family.

Cock of the Walk, a phrase applied to a dominant bully or master spirit.

Cock of the Woods, See CAPERCAILZIE.

Cockpit, in a ship of war, the name still given to the compartment in the lower part of the ship where the wounded are attended to during action.

Cockroach, an insect common in houses, particularly in seaport towns. It is often called the black beetle, an erroneous name, for it is not a beetle at all, but an orthopterous insect.

Cockscomb, the comb of a cock, being a sort of ensign or token which the fool was accustomed to wear. Also a name sometimes given to certain flowers which are astringent and are used as a medicine in Asia.

Cock's-foot Grass, a genus of grasses. In the United States this grass is called orchard grass, and is extensively cultivated. To this genus belongs also the tussac grass.

Cocles, Horatius, a hero of ancient Rome, who alone, in 506 B. C., opposed the whole army of Porsenna at the head of a bridge, while his companions were destroying it behind him. When this was effected, Cocles, though wounded by the darts of the enemy, and impeded by his arms and armor, leaped into the Tiber and swam safely across.

Cocoanut, a woody fruit of an oval shape, from 3 or 4 to 6 or 8 inches in length, covered with a fibrous husk, and lined internally with a white, firm, and fleshy kernel. The tree which produces the cocoanut is a palm, from 40 to 60 feet high. The trunk is straight and naked, and surmounted by a crown of feather-like leaves. The nuts hang from the summit of the tree in clusters of a dozen or more together. This palm is a native of Africa, the East and West Indies, and South America, and is now grown almost everywhere in tropical countries. Food, clothing, and shelter are among the products of this tree.

Cocoon, the silken sheath spun by the larvæ of many insects in passing into the pupa or resting stage. The most typical and perfect cocoons are those of many moths, a familiar example being that of the silkworm.

Cod, a genus of fishes. The most interesting of all the species is the common or Bank cod. An extent of about 450 miles of ocean, laving the chill and rugged shores of Newfoundland, is the favorite annual resort of countless multitudes of cod, which visit the submarine mountains known as the Grand Banks to feed on the crustaceous and molluscous animals abundant in such situations.

The liver of the cod, when fresh, is eaten by many with satisfaction, but it is more generally reserved by fishermen for the sake of the large quantity of fine limpid oil which it contains. This is extracted and forms the well-known and highly valued cod liver oil.

Among American species there have been enumerated 10 that are taken to the New York market, and are caught on the coasts adjacent. The importance of this fishery and the great national interests which it involves, has made it a fruitful source of diplomatic discussion, and led to the establishment of various regulations, to which all are obliged to conform who participate in its advantages.

Coddington, William, the founder of the colony of Rhode Island; born in England, in 1601, and arrived in Massachusetts in 1630. He remained in Boston for several years, but not being able to agree with the authorities of the colony, be removed in 1638 to Aquidneck, or Rhode Island, where he founded a colony to be governed "by the laws of the Lord Jesus Christ." It was soon found necessary to abandon this vague scheme, and in 1640 he himself was chosen governor, and in 1647 aided in the formation of a regular body of laws. He was unable to secure the reception of Rhode Island into the colonial confederacy. In 1674 and 1675 he was again elected governor. He died in 1678.

Code, a systematic collection or digest of laws, classified and simplified.

In the United States.— The acts of Congress have been codified and are spoken of as the United States Code, and in each State the acts of the different legislatures are usually annually printed and periodically codified. Both the State and Federal authorities have court and legislative reporters for aiding in the codification of the laws.

Code, Cipher, a system of arbitrary words to designate prearranged or predetermined words, figures or sentences.

Code, Civil, or **Code Napoleon.** One of the first labors of Bonaparte, when consul, was to give France a code. Under his rule the adoption of the "Code Napoleon" was made obligatory on all the countries subject to the French. After the battle of Leipsic, in 1813, which freed Germany from the power of France, it ceased to be obligatory in the German States, but it continued to influence considerably their legislation. At present this code is recognized in the kingdom of Belgium (with some modifications), in the grand-duchy of Baden, in the kingdom of Italy, and elsewhere in Europe. In the United States it was a model for the code of Louisiana.

Codex, a roll or volume, specially used in compound terms, as Codex Justinianus, Code of Justinian, Codex Theodosianus, Code of Theodosius. In Biblical criticism a manuscript of any portion of the New or Old Testament, especially of the former.

Codicil, a supplement to a will, whereby anything omitted is added, or any change demanded by the altered circumstances of the testator or the beneficiaries is effected.

Codling Moth, a small moth which infests apple trees. In the Northern States it flies in May, laying its eggs in the calyx after the blossoms fall; in a few days the larva hatches, in three weeks it becomes fully grown.

Cod-liver Oil, an oil obtained from the liver of the common cod.

Codman, John, an American sea-captain and miscellaneous writer; born in Dorchester, Mass., 1814. Died in Boston, Mass., April 6, 1900.

Codrington, Sir Edward, an English naval officer; born in Gloucestershire in 1770. He entered the navy in 1783; obtained a gold medal for his services at the battle of Trafalgar, and was afterward actively employed both in the Peninsular and second American wars. In 1827 he commanded the united squadron that overthrew the Turkish fleet in the battle of Navarino. From 1832 to 1837 he was member of Parliament. He died in London in 1851.

Cody, William Frederick, a former United States government scout; born in Scott county, Ia., Feb. 26, 1845; better known as "Buffalo Bill," a name earned while employed by the Kansas Pacific railway to furnish meat for its laborers, when he slaughtered 4,280 buffaloes in 18 months. In 1872 he was elected to the Nebraska Legislature, and in 1883 organized the "Wild West Show," which has been seen all over the United States, as well as in many foreign countries. He has been employed frequently by the United States Government as a guide and scout in the Indian country.

Coe College, a co-educational institution in Cedar Rapids, Ia.; organized in 1881, under the auspices of the Presbyterian Church.

Cœle-Syria, (that is, "Hollow-Syria"), the large valley lying between the Lebanon and Anti-Lebanon mountain ranges in Syria. Near its center are the ruins of Baalbec.

Cœnobites, the name given to those monks who live together, in contradistinction to anchorites or hermits, who live in a solitary fashion.

Cœur de Lion, a title given to several historical personages, as Richard I. of England; so-called from the prodigies of personal valor performed by him in the Holy Land; Louis VIII. of France, frequently called Le Lion; and Bolaslas I. of Poland, also called "The Intrepid."

Coffee, the seed of an evergreen shrub, which is cultivated in hot climates, and is a native of Abyssinia and of Arabia. This shrub is from 15 to 20 feet in height, and belongs to the Rubiaceæ. The fruit is of an oval shape, about the size of a cherry, and

COFFEE PLANT AND KERNEL.

of a dark-red color when ripe. Each of these contains two cells, and each cell a single seed, which is the coffee as we see it before it undergoes the process of roasting.

It was not till 1774 that the planters of Brazil, now the greatest producers of coffee in the world, began its cultivation. It is now widely cultivated in South and Central America.

Since the middle of the 18th century both the culture and consumption of coffee have continually increased. The principal supply of the United States is derived from Brazil, which furnishes 75 per cent. of the whole import. It is known in commerce as "Rio." Coffee acts as a nervous stimulant, a property which it owes mainly to the alkaloid caffeine. In 1903 the supply of coffee so far exceeded the demand that the Brazilian authorities ordered the destruction of part of the product.

Coffee Bug, an insect of the coccus family, very destructive in coffee plantations.

Coffee House, a house of entertainment where persons are supplied with coffee and other refreshments.

Cofferdam, a water-tight inclosure formed by piles driven into the bottom of a river and packed with clay, etc. It is used as a dam while laying bare the bottom of the river.

Coffin, the box or chest in which corpses are inclosed before being committed to the ground. Coffins were in use in Egypt at a remote period of antiquity. But among the classical nations the later practice was to burn the dead and deposit the ashes in an urn.

Coffin, Charles Carleton, an American novelist and lecturer; born in Boscawen, N. H., July 26, 1823; began life as a civil engineer; afterward gave his attention to telegraphy. In 1851 he began to write for the Boston papers; and during the Civil War and the Austro-Prussian War of 1866 was war correspondent. He died in Brookline, Mass., March 2, 1896.

Coffin, Levi, an American philanthropist; born near New Garden, N. C., Oct. 28, 1798. He was a farmer's boy and early evinced interest in the negro's welfare. Proving successful in business, he actively aided slaves to gain freedom, largely through the "underground railroad." He died in Avondale, O., Sept. 16, 1877.

Coghlan, Joseph Bullock, a naval officer, born in Kentucky, received an appointment from Illinois to the Naval Academy 1860-3, and rose by successive stages to rear-admiral in 1902. In the Spanish American War, he commanded the Raleigh during the operations in the Philippines, 1898. He became commander of the North Atlantic station, 1902, and retired in 1906. He died Dec. 5, 1908.

Cognac, a town in France, department of Charente; 22 miles W. of Angouleme. It is famous for its brandy. Pop. 19,500.

Cohoes, a city in Albany county, N. Y.; at junction of the Hudson and Mohawk rivers; on the Erie canal and several railroads; 9 miles N. of Albany; has a fine waterfall, and cotton, woolen, and knit goods, machinery, paper, and tube plants. Pop. (1910) 24,709.

Coimbra, capital of the Portuguese province of Beira, on a hill above the Mondego river, here crossed by a stone bridge, 135 miles N. N. E. of Lisbon. Coimbra was the capital of Portugal for about two centuries and a half from its erection into a kingdom in 1139. The University of Coimbra, the only one in Portugal, was originally established at Lisbon in 1288, but was permanently transferred here in 1537; attached to it are a museum, an observatory, a botanical garden and a library of over 60,000 volumes. Pop. 17,300.

Coin, a piece of metal on which certain characters are stamped by authority, giving the piece a certain legal current value. Homer speaks of brass money, 1184 B. C. The invention of coin is ascribed to the Lydians, whose money was of gold and silver. Julius Cæsar first obtained permission of the Senate to place his portrait on the coins, and the example was soon followed. The Britons and Saxons coined silver.

United States gold coins are nine-tenths fine; the silver coins, nine-tenths fine; the copper-nickel coins, such as the 5-cent piece, are one-fourth nickel and three-fourths copper; the bronze coins are 95 per cent.

copper and 5 per cent. tin and zinc. The alloy in the gold coins is silver and copper; in the silver coins, copper. It is a felony to counterfeit coins.

Coinage, the act or process of coining money. In the United States there is free and unlimited coinage of gold; that is, standard gold bullion may be deposited at the mints in any amount, to be coined for the benefit of the depositor, without charge for coinage; but when other than standard bullion is received for coinage a charge is made. The depositor receives in gold coin the full value of the gold in his bullion, less such charges as are specified by law. Subsidiary silver and standard silver dollars, under existing law in the United States, are coined only on Government account. They are coined from bullion, purchased by the Government, and the profits of such coinage belong to the Government.

Coke, Sir Edward, a great English jurist and author of law books, the son of a Norfolkshire gentleman; born in 1551; died in 1634.

Cola-nut, the seed of a South American tree, which is used as a stimulant, and also as an astringent in tropical diarrhœa.

Colbert, Jean Baptiste, a French statesman and financier, born in Rouen in 1619. He died in 1683. His son, also named Jean Baptiste, born in 1651, succeeded his father as minister of marine, and minister of the king's household. He raised the French navy to its highest power, and in 1684 he led in person the maritime expedition against Genoa. He died in 1690.

Colburn, Zerah, an American mathematical prodigy; born in Cabot, Vt., Sept. 1, 1804; displayed remarkable powers of calculation. At the age of 6 he answered correctly such questions as "How many hours in 1811 years?" in 20 seconds; and a few years later complicated problems were solved with equal rapidity. He served as a Methodist preacher and was Professor of Languages in Norwich University, Vermont, where he died March 2, 1840. His remarkable faculty disappeared as he grew to manhood.

Colchicum, the meadow saffron, found in meadows and pastures of the north temperate regions.

Colchicum Corm, the fresh corm of common meadow saffron, which is collected about the end of June, and stripped of its coat, sliced transversely and dried. The taste is bitter and acrid.

Cold, the term by which is signified a relative want of sensible heat. Great or prolonged atmospheric cold is a most powerful depressing agent, and is a fruitful cause of disease and even of death.

Cold is applied in various ways in the treatment of disease. The tonic and stimulating effects of a temporary application of cold are familiar in the cold morning bath, or the use of cold water sprinkled on the face of a person who has fainted.

Cold Cream, a cooling ointment applied to the skin, rendering it soft and pliable.

Colden, Cadwallader, an American scientist and colonial official; born in Dunse, Scotland, Feb. 17, 1688; emigrated to America in 1708. He devoted himself to botany and astronomy. Was surveyor-general of New York and president of the Council. He sided with the crown in the contest over the Stamp Act. Died at Long Island, N. Y., Sept. 28, 1776.

Cold Harbor, a village in Hanover county, Virginia, 2 miles N. E. of Chickahominy Creek, and 9 miles N. E. of Richmond. It is noted as the scene of two battles during the Civil War; June 3, 1864, between the Confederates under General Lee and the Federals under General Grant; and a smaller encounter, June 27, 1862, at Gaines' Mill, at this place.

Cold Storage, the method now generally employed to preserve perishable articles of food by the air of freezing machines, which reduce the temperature of the air.

Coldstream Guards, a regiment in the Foot Guards or Household Brigade, the oldest in the British army.

Cold Wave, a term used for a drop of at least 20° in temperature in 24 hours. It is due to steady winds from the N. W.

Cole, King, a legendary British king.

Cole, Thomas, an American landscape painter; born in Lancashire, England, Feb. 1, 1801. He painted "The Voyage of Life," showing childhood, youth, manhood, and old age. Very popular and well-known through engravings. He died in Catskill, N. Y., February, 1848.

Coleman, Arthur Philemon, a Canadian educator; born in Lachute, Quebec, April 4, 1852. Became Professor of Geology and Natural History in Victoria University, and in 1891 Professor of Assaying and Metallurgy in the School of Practical Science, Toronto.

Coleman, Leighton, an American clergyman; born in Philadelphia, May 3, 1837. Becoming an Episcopalian priest, after holding important rectorships was made bishop of Delaware in 1888. He died Dec. 14, 1907.

Colenso, John William, an English clergyman; born in Cornwall, Jan. 24, 1814. In 1854 he was appointed first bishop of Natal, South Africa. A tempest of disapprobation burst forth when he published "The Pentateuch and Book of Joshua Critically Examined." The Bishop of Cape Town declared Colenso deposed from his see; but on an appeal to the Privy Council the deposition was pronounced null. He died in Durban, Natal, June 20, 1883.

Coleoptera, an order of insects which has been recognized since the days of Aristotle. The number of species amounts to 100,000. They are sometimes collectively called beetles, and many of them are known as weevils, lady-bugs, etc. The glow-worm and the blistering fly belong to this order.

Coleridge, Samuel Taylor, an English poet and philosopher; born in Ottery, St. Mary, Devonshire, Oct. 21, 1772. Leaving college he first enlisted and afterward took up his residence at Bristol with two congenial spirits, Robert Southey and Lovell. The three conceived the project of emigrating to America and establishing a community in which all should be equal, on the banks of the Susquehanna. This scheme never became anything more than a theory, and was finally abandoned when the three friends married three sisters, the Misses Fricket, of Bristol. In 1796 he took a cottage at Nether Stowey, in Somersetshire, where, soothed and supported by the companionship of Wordsworth, he wrote much of his best poetry, in particular the "Ancient Mariner." He died July 25, 1834.

Coles, Cowper Phipps, an English naval architect; born in Hampshire in 1819. In 1855 he constructed a gun-raft which was favorably reported on; ultimately produced a form of turret-ship, the general idea of which had probably occurred to him independently, although its development owed much to the invention of John Ericsson. A vessel was built from his designs, and on Sept. 7, 1870, turned bottom upward in a gale and sank off Cape Finisterre, almost all on board, including Coles, being drowned.

Colfax, Schuyler, an American statesman; born in New York, March 23, 1823; removed in 1836 to Indiana, where in 1845 he acquired a newspaper at South Bend. He was a delegate to the Whig conventions of 1848 and 1852; was elected to Congress in 1854, by the newly-formed Republican party, and reëlected until 1869, being thrice chosen Speaker; and in 1868 he was elected vice-president of the United States, in Grant's first term. He spent the remainder of his life in political retirement, making public appearances only on the lecture platform, and died in Mankato, Minn., Jan. 13, 1885. He was the founder of the Daughters of Rebekah branch of American Odd Fellowship.

Colgate University, an educational institution in Hamilton, N. Y.; organized in 1819, under the auspices of the Baptist Church.

Coligny, Gaspard de, Admiral of France; a great Huguenot leader and martyr; born in Chatillon-sur-Loing in 1517; distinguished himself under Francis I. in the battle of Cerisoles and under Henry II., who made him colonel-general of the French infantry, and in 1552 admiral of France. After the death of Henry II. the intrigues of Catharine de' Medici, induced him to place himself at the head of the Calvinists against the Guises. An advantageous peace seemingly put a stop to this contest (1570). Coligny

appeared at court, and was with his adherents loaded with favors. Charles IX. gave him 100,000 francs as an indemnification for his injuries, together with a seat in the council. As the admiral was leaving the Louvre, Aug. 22, 1572, his right hand and left arm were wounded by a shot from a window. Maurenal had fired at him, according to the plan of Catharine de' Medici, probably with the knowledge of the Duke of Guise. Charles caused search to be made for the assassin at the moment when the massacre of the Protestants was already prepared. The slaughter began on the night of St. Bartholomew's, Aug. 24, 1572. The Duke of Guise hastened with a numerous suite to the house of the admiral. One Behme, or Besme, at their head, entered with his drawn sword and pierced him with several stabs and threw the body out of the window into the courtyard. The corpse was given up for three days to the fury of the people, and finally was hung up by the feet on a gibbet, at Montfaucon. Montmorency, a cousin of Coligny, had it taken down, and secretly buried in the chapel of the castle of Chantilly.

Colima, a Mexican State on the Pacific coast, with an area of 2,272 square miles, and a pop. (1900) of 65,026. The soil is very fertile, the climate warm. The capital is Colima, 1,450 feet above the sea, about 40 miles E. N. E. of the port of Manzanillo. Pop. 19,305. Beyond the State frontier, about 35 miles N. E. of the capital rises the volcano of Colima (12,750 feet).

Coliseum, more properly **Colosseum,** a gigantic ruin in Rome, the greatest amphitheater which Roman magnificence ever erected. At present care is taken not to touch the ruins of the coliseum, but it is gradually crumbling away of itself. Only a portion of the upper range remains, the lower part is comparatively entire. The Coliseum received its name from the colossal statute of Nero which was placed in it.

Collect, a name given to certain brief and comprehensive prayers, found in liturgies and public devotional offices.

Collectivism, a word of recent origin, intended to express the central idea in the economic theory of socialism, that industry should be carried on with a collective capital.

College de France, a celebrated institution founded by Francis I., in 1530, now a very important educational institution, giving instruction over a very wide field of literature, history, and science. It is independent of the University of France.

College Fraternities, societies existing in American colleges which are named from the letters of the Greek Alphabet and therefore commonly called "Greek Letter Societies." They are secret only in their grips and passwords, their object being chiefly literary and social.

College of the City of New York, non-sectarian, founded 1848, occupying fine new buildings in N. Y. C., opened 1906. Instruction is free to city residents.

Colleges for Women, institutions of higher learning, designed to give women practically the same advantages of instruction and research as are afforded to men. They are of three types. Independent colleges for women of the same grade as those for men are peculiar to the United States. The earliest institution was Mount Holyoke College. Affiliated colleges in which the standards of entrance and graduation are the same as in the men's colleges with which they are affiliated. The prevailing system of coëducation in the United States for both men and women began in Oberlin College, in Ohio, in 1833.

Collegiate Church, in England, a religious house built and endowed for a society or body corporate independent of any cathedral.

Collie, a breed of the dog of obscure origin, which is highly valued. Many anecdotes are told of the collie, who from his intimate association with man has acquired almost human intelligence, a good dog being able to separate the sheep under his care from those of other flocks. The collie often deteriorates in intelligence when kept merely as a companion. When not spoilt, however, no dog makes such an agreeable companion as the collie, as his instinct is to attach himself to one person, to whom he becomes devoted.

Collier, Robert Laird, an American Unitarian clergyman: born at Salisbury, Md., Aug. 7, 1837. Starting in life as an itinerant Methodist preacher, he held prominent Unitarian pulpits in Chicago and Boston. He died near Salisbury, England, July 27, 1890.

COLLIE.

Collingwood, Cuthbert, Lord, an English naval commander: born in Newcastle-upon-Tyne in 1750. His most distinguished service was at Trafalgar, where his skill and resolution drew warm praise from Nelson. On the latter's death Collingwood, as senior officer, took command of the fleet, and gave proof of his judgment and nautical skill in his dispositions for the preservation of the captured vessels. He died while cruising off Minorca on March 7, 1810.

Collins, Edward K., an American shipowner: born in Truro, Mass., Aug. 5, 1802. He early entered the shipping business, and after serving as superintendent of a packet line, he established in 1836 the Dramatic Packet Line from New York to Liverpool. In 1849 the Collins line between the same ports was inaugurated. The "Arctic" and the "Pacific" of this line are memorable in the history of marine disasters. The government having withdrawn mail subsidies, the line ceased operations in 1858. He died in New York City, Jan. 22, 1878.

Collins, Patrick Andrew, an American politician: born in Fermoy, Ireland, March 12, 1844. He came to the United States when four years old. He served in the Massachusetts Legislature, was a delegate to various Democratic National Conventions, sat in Congress and was Consul-General at London. He was prominent in Irish organizations; became Mayor of Boston, 1901; died Sept. 15, 1905.

Collins, William, an English painter, father of the novelist; born 1788, died 1847. He was felicitious in depicting child life, as attested by "Happy as a King"; "Boys with a Bird's Nest," etc.

Collins, William Wilkie, an English novelist; born in London, Jan. 8, 1824. He wrote a biography of his father in two volumes in 1848, and from that time he made literature his profession. His principal works which have been translated into French, German, Italian, Russian, and other languages, include "The Woman in White"; "No Name"; "The Moonstone"; "Man and Wife"; "The New Magdalen"; "The Two Destinies"; "Heart and Science"; "Blind Love". He died in London, Sept. 23, 1889.

Collision, in maritime affairs, the shock of two ships coming into violent contact, whereby one or both may suffer more or less injury.

Collodion, or **Collodium,** a substance prepared by dissolving one part of gun cotton in a mixture of 36 fluid parts of ether and 12 fluid parts of rectified spirit.

Collodion Process, a process in photography invented by Archer, who described it in 1851.

Collot, D'Herbois, Jean Marie, one of the most sanguinary leaders in the French Revolution; born in Paris in 1750. Before the Revolution he was a clever strolling player. He joined the club of the Jacobins and became a member of the Convention, and of the Committee of Public Safety. In 1793 he went to Lyons, where he had more than 16,000 persons put to death, and made it a capital crime to look sad or pitiful. An attempt was made to assassinate him, which only made him more popular, and he contributed powerfully to the fall of Robespierre. He was soon after denounced, arrested, and in March, 1795, transported to Cayenne, where he died in 1796.

Collyer, Robert, an American clergyman; born in Keighley, Yorkshire, England, Dec. 8, 1823. He came to the United States in 1849, being then a Wesleyan preacher and a blacksmith, but became a Unitarian and preached some years in Chicago, where he founded Unity Church in 1860. He was made pastor of the Church of the Messiah, New York City, in September, 1879, and pastor emeritus in 1896.

Colman, Samuel, an American painter; born in Portland, Me., March 4, 1832; studied in Europe in 1860–1862; was elected a member of the National Academy in 1862; and first president of the American Society of Painters in Water Colors.

Colocynth, the pith of the bitter apple; which is violently purgative. It is imported from Turkey. In large doses colocynth is an irritant poison.

Cologne, a city of Rhenish Prussia, on the left bank of the Rhine, forming, in connection with Deutz, which serves as a tete-du-pont on the opposite side of the river (across which are several bridges), a fortress of the first rank. The old fortifications, dating from the Middle Ages have been swept away, new works being constructed in accordance with the principles of modern fortification.

The most important edifice of all is the cathedral, begun in 1248, one of the finest and largest Gothic structures in Europe. It was only completed in the 19th century, there being expended on it in 1828–1884 over $5,000,000. Pop. (1900) 372,229.

Colombia, a South American Republic extending along the Pacific Coast from the Isthmus of Panama to Ecuador, and along the Caribbean Sea, east to Venezula. It comprises eight departments, with an area estimated at 473,202 square miles; pop. 3,593,600. Chief towns: Bogota (the capital), Medellin, Bucaramanga, Cartagena, Popayan, Ibagué, Tunja, Santa Marta. Panama a former department seceded in 1903 (see PANAMA). The surface of the country is varied, lofty mountains occupying the west, and vast low-lying plains the east. The climate ranges from mountain cold with snow and ice, to southern tropical conditions. Agriculture is largely carried on, but primitively; stock raising is the chief branch of industry.

Among the natural mineral products are gold, silver, iron, copper, lead, coal, sulphur, zinc, antimony, arsenic, cinnabar, rock-salt, crystal, granite, marble, lime, gypsum, jet, amethysts, rubies, porphyry and jasper; while much of the world's platinum is obtained from the upper San Juan, and the principal source of the finest emeralds is at Muzo in Boyaca.

The government is that of a republic, the chief magistrate being a president, elected for six years. The legislative power vests in a Congress of two Houses, called the Senate and House of Representatives. Congress elects for a term of two years, a substitute, who succeeds to the office of president or vice-president, should a vacancy occur during the term.

In 1870 a system of compulsory education was adopted which has on the whole proved successful. Parochial secondary, normal and technical schools are now within general reach and nearly all the departments boast universities of more or less efficiency. The State Church is the Roman Catholic, which in the management of its own affairs is independent of civil authority; toleration in matters of religion is guaranteed; but, by the terms of a concordat entered into with the Pope in 1888, in the universities and all educational establishments public instruction is directed in conformity with the dogmas of the Roman Catholic Church.

In 1863 a constitution was adopted, based on that of the United States of America, with a president elected for two years; but this proved altogether unsuited to the Colombians, and, after twenty years' trial, brought about the revolution of 1884–1885. In 1886 a new constitution with central Federal authority was adopted. In 1905, the national currency was reorganized on a gold basis.

Colombo, a seaport town, the capital of Ceylon. It has an extensive fort, within which are some of the best houses, and which occupies a projecting point of land. Through the construction of a breakwater and other works there is excellent harbor accommodation; and numerous vessels call here. Pop. (1901), 158,093.

Colon, the greatest and widest of all the intestines, about eight or nine hands' breadth long.

Colon, or **Aspinwall** (the former the official name), a free port of Panama, on Manzanillo Island, on the N. side of the Isthmus of Panama, at the Atlantic extremity of the inter-oceanic railway, and near that of the Panama canal. Established in connection with the railway, it had an important transit trade before the canal was begun, and since then the place has been entirely transformed, a new town with wide and regular streets having been built on a tract of land reclaimed by the canal company. There is extensive harbor accommodation. Pop. est. at 8,000 to 10,000.

Colonel, the commander of a regiment, whether of cavalry, infantry or artillery. Any rank above a colonel constitutes the bearer of it a general officer. In the United States army a colonel is commander of troops below a brigadier-general, and above a lieutenant-colonel.

Colonia, a department of Uruguay, on the Plata, below the Uruguay river. Area, 2,192 square miles; pop. (1902) 53,223. Its capital of the same name (pop. 2000), is on the Rio de la Plata, almost opposite Buenos Ayres.

Colonna, a village in the Papal States, which gave its name to one of the most powerful and celebrated aristocratic Roman families.

Colonna, Prospero, son of Antonio Colonna, prince of Salerno. He assisted Charles VIII. of France to conquer Naples, but subsequently aided in retaking it for the House of Aragon. He served under the great Gonsalvo, and was charged by him to conduct Cesare Borgia prisoner to Spain. In 1513 Prospero defeated the Venetians near Vicenza, was captured by the French two years later, but won several victories over them in 1521 and the following years. He died in 1523.

Colonnade, a range of columns. A colonnade differs from an arcade in this respect, that the columns of the former support straight architraves instead of arches.

Colonus, in Roman law, a freeman of inferior rank, corresponding with the Saxon ceorl and the German rural slaves.

Colony, a settlement formed in one country by the inhabitants of another. Colonies may either be formed in dependence on the mother country or in independence. In the latter case the name of colony is retained only in a historical sense.

Since the United States has acquired Porto Rico, the Philippines and Sulu Islands, and the Ladrone Island of Guam, the question of colonial government has become a national issue.

There are 126 colonies in the world and nearly as many distinct forms of colonial government, varying from practical independence to absolute control by the mother country.

Colophon, the device or imprint at the end of a published work, which in old books frequently stated the name of the author as well as the printer's name, along with the date and place of publication, most of which information is now put in the title page.

Color, the name given to distinguish between the various sensations that lights of various rates of vibration give to the eye. The optic nerves are excited by vibrations of the light-bearing ether when the rapidity of the vibrations is not greater than or less than two limits, which perhaps vary slightly with different eyes, just as some ears cannot hear intensely shrill sounds or dull sounds that are perceived by others. Every vibration between these limits is recognized as light; its intensity or brightness is observed; but besides this, the eye is differently affected by light of different times of vibration, in a way that it is not possible to describe. It is to this variation in the sensation that the name color is given. The word color is also applied to the properties of bodies that cause them to emit the light that thus affects our senses.

The colors of the spectrum are usually said to be seven — red, orange, yellow, green, blue, indigo, violet; although in reality there is an enormous, if not an infinite number of distinct colors in it. These colors are frequently called the primary colors, and other tints and shades are producible by mixing them; but in a stricter sense the primary colors are three in number, namely, red, green and violet (or blue). These three

colors or kinds of light cannot be resolved into any others. In the scientific sense of the word white and black are not considered colors, a white body reflecting, and a black body absorbing all the rays of light, while color is due to separation of the rays of light by partial absorption and reflection or by refraction.

Color-Photography. See PHOTOGRAPHY.

Colorado, a State of the Union, bounded by Wyoming, Nebraska, Kansas, Oklahoma, New Mexico and Utah; gross area, 103,645 square miles; admitted to the Union July 4, 1876; number of counties 57; population (1900) 539,700; (1910) 799,024; capital, Denver.

Colorado is very mountainous, being traversed by the Rocky Mountains, which extend over nearly the entire breadth of the State. The average altitude of the State is 7,000 feet, the lowest portion being 3,000 feet above the sea, and there are over 100 mountain peaks more than 13,000 feet high. The valleys are a distinguishing feature of the scenery, and are known as parks. San Luis is the largest and has an area of 8,000 square miles, quite level, and at an elevation of 7,000 feet. The only lake of any size in Colorado is in this park, is about 6 miles in length and is fed by nearly 20 streams. Colorado is the principal watershed in the Western States, many of the largest rivers having their origin here, among them the Platte, Colorado, San Miguel, Arkansas and Rio Grande del Norte. Nearly all these rivers wind their way through rocky canyons, varying from one to 3,000 feet in depth. "Monument Park" and the "Garden of the Gods" contain "buttes," rising above the meadow land, shaped like towers and pillars, caused by erosion.

Colorado has about 15,000 square miles of fertile arable land, and about 70,000 square miles of grazing land. Most of the land will produce abundant crops under irrigation, which is now being carried on extensively, one irrigating canal having a length of 54 miles. The mountains are well covered with pine, spruce, and fir forests. The climate is very healthful and mild, and people suffering from pulmonary and asthmatic troubles find much relief here. There are various mineral springs, which are valuable for medicinal purposes. The hot sulphur springs in Middle Park and Wagon Wheel gap, and the hot iron, and soda springs in Manitou are popular resorts.

Colorado is by far the first State in the Union in mineral wealth. In 1900 it ranked first in the production of gold, silver and lead, and beside being rich in copper, zinc and manganese, ranked eighth in iron and ninth in coal. Agriculture and manufactures are flourishing, and education and religion are liberally maintained.

The governor is elected for a term of two years, and receives a salary of $5,000 per annum. Legislative sessions are held biennially. The Legislature has 35 members in the Senate (elected for four years) and 65 in the House (elected for two years), each of whom receives $1,000 per term. There are 4 Representatives in Congress under the last census.

The name Colorado comes from that of the river, meaning "red water." Explorations were made here by United States army officers in 1806, 1819 and 1842–1844, and several fur-trading stations were established. Gold was discovered in 1858, and as a consequence of this Denver Boulder and Auraria were speedily founded and made a county in the territory of Kansas. In 1861 Colorado, according to its present limits, was organized as a territory, and in 1876 was admitted into the Union, receiving the popular designation of the "Centennial State."

COLORADO BEETLE.

a, insect; *b*, caterpillar; *c*, eggs.

Colorado Beetle, a beetle first described by Thomas Say, in 1824, from specimens found by him near the Upper Missouri. The larva feeds greedily on the potato, and having attracted notice in Colorado for its ravages among the crops of that escu-

lent in the territory, it moved eastward year by year, till in 1874 it had reached the Atlantic seaboard. It is popularly known as the potato bug.

Colorado River, or **Colorado of the West,** a great river of the United States and Mexico, formed by the junction of the Green and Grand rivers. From the mouth of the Little Colorado the river bends W., and for the first 200 miles shoots through the wonderful "Grand Canon." The walls of this water-worn trench are often vertical, or nearly so, for a distance of thousands of feet at a time; sometimes they slope steeply, or constitute magnificent terraces. The cliffs or rock-walls attain a height of from 4,000 to 7,000 feet above the stream, which runs with a varying descent of from 5 to 200 feet to the mile, and whose channel now contracts to 30 feet in width and now widens to 300 feet. There are frequent whirlpools and waterfalls. Below the canon the valley opens, and there is much fertile bottom-land.

Further on the Colorado twice again bores its way through deep canons, the sides of which in some places present walls of solid rock nearly 7,000 feet high. Thence it pursues a tortuous course, the last portion being through Mexican territory, to its mouth in the Gulf of California. From the source of the Green river the Colorado measures a total length of about 2,000 miles.

Colorado River, one of the chief streams of Texas. Rising in the high table lands of Bexar, it empties into Matagorda Bay. Austin, Bastrop and Columbus are on its banks, and Matagorda near its mouth.

Colorado Springs, city and capital of El Paso county, Col.; at the base of the Rocky Mountains, near Pike's Peak, and on several railroads; 6,000 feet above sea-level; 75 miles S. of Denver; is widely noted for its grand scenic attractions, which include the famous Garden of the Gods, Manitou and Monument Valley Parks, and South Cheyenne Cañon; is the seat of Colorado College (nonsect.), the State Institution for the Deaf and Dumb, and the Childs-Drexel Home for Union Printers; and is chiefly engaged in mining. Pop. (1910) 29,078.

Color Hearing, a vision of colors, which in some persons is thought to accompany their perception of sounds. The facts are not yet brought under any scientific rules; they seem to vary with different experimenters.

Coloring, one of the essential parts of painting — namely, that part which relates to colors.

Color Printing, the art of producing pictures, designs, cards, etc., in various colors by means of lithography, printing from metal blocks, etc.

Colossians, Epistle to the, a letter written to the Colossians by the Apostle Paul either from Rome or Cæsarea, at the same time that he wrote the epistles to the Ephesians and to Philemon. It contains a summary of Christian doctrine, especially dwelling on the divine power and majesty of Christ, and a series of practical exhortations to specific duties of Christian morality.

Colossus, in sculpture, a statue of enormous magnitude. The celebrated colossus of Rhodes was reckoned one of the seven wonders of the world. This statue which by some has been reckoned among the fabies of antiquity, was raised by the Rhodians in honor of Apollo.

Of other colossal statues, those which were executed by Phidias are among the most celebrated for beauty and elegance of workmanship.

In the United States a figure of "Liberty Enlightening the World," 151 feet high (with pedestal 305), has been erected in New York, overlooking the harbor and serving as a beacon. It was the work of the French sculptor Bartholdi, and was constructed mainly through the efforts of a French-American Union formed in 1874. In 1880 it was presented by France to the United States, and six years later it was placed on its present site, Bedloe's Island.

Colquitt, Alfred Holt, an American legislator; born in Walton county, Georgia, April 20, 1824. He served in the Mexican war, and was elected to Congress in 1852 as a Democrat. Upon the outbreak of the Civil War he entered the Confederate army as a captain. He was elected governor of Georgia in 1876 and United

States Senator in 1882 and in 1888. He died in Washington, D. C., March 26, 1894.

Colt, Samuel, an American inventor; born in Hartford, Conn., July 19, 1814. He went to sea as a sailor boy when aged 15. His attention being drawn to firearms while at sea, he began to perfect a revolver and patented it in 1835. Its great success led to the erection by him at Hartford of one of the most extensive weapon factories in the world. He died in Hartford, Jan. 10, 1862.

Colton, Gardner Quincy, an American scientist; born in Georgia, Vt., Feb. 7, 1814. While lecturing on chemistry and physics, accident led him to a discovery of the anæsthetic properties of nitrous oxide, or "laughing gas," credit for which is also given to Dr. Horace Wells. He died in Rotterdam, Holland, Aug. 11, 1898.

Colton, Walter, an American writer; born in Rutland, Vt., May 9, 1797. Died in Philadelphia, Pa., Jan. 22, 1851.

Coltsfoot, a composite plant, abundant in the United States in moist and clayey soils. The leaves have been used medicinally as an infusion, or have been smoked like tobacco for the cure of asthma.

Coluber, a linnæan genus, comprehending all the snakes now included under the family Colubridæ. The species are very numerous, some of them beautifully colored, and all are harmless. The black snake — which must not be confounded with the Boa Constrictor — is common in all the Southern and South Atlantic States. It is rarely molested by those who know its habits, as it is very useful in destroying rats and kindred vermin. It sometimes attains a length of eight or nine feet.

Columba, St., a native of Ireland (Gartan in Donegal); born in 521. About 563 he landed in the island of Hy, now called Iona, and founded his church. About 565 he went on a mission of conversion among the northern Picts, and traversed the whole of Northern Scotland, preaching the Christian faith and founding monasteries, all of which he made subject to that which he had set up on the island of Hy. The Columban Church was in some points opposed to Rome. He died in Iona, 597.

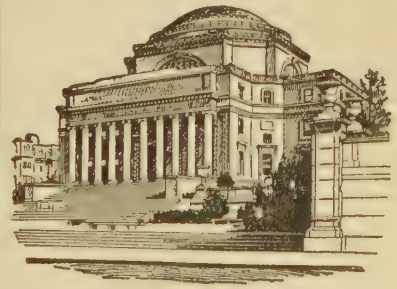
Columbia, the popular name of the United States; derived from Columbus, the discoverer.

Columbia, city and capital of Richland county and of the State of South Carolina; on the Congaree river and several railroads; 130 miles N. W. of Charleston; contains besides the State Capitol, the State Penitentiary, State Insane Asylum, Federal Building, South Carolina College, Allen University, Benedict College, Presbyterian Theological Seminary, and Presbyterian and Columbian Colleges for Women. Pop. (1910) 26,319.

Columbia, District of. See DISTRICT OF COLUMBIA.

Columbia River, after the Yukon the largest river on the W. side of America; rises in British Columbia, on the W. slope of the Rocky Mountains; has a very irregular course, generally S. W. through Washington; forms the N. boundary of Oregon for about 350 miles; and enters the Pacific by an estuary 35 miles long and from 3 to 7 wide. Its estimated length is 1,400 miles. The extraordinarily abundant salmon-fisheries of the Columbia have been largely developed.

Columbia University, a seat of learning in New York city. The charter of King's College, the original



LIBRARY OF COLUMBIA UNIVERSITY.

name of Columbia, was granted by George II., and finally passed the seals on Oct. 31, 1754, from which day the

college dates its existence. King's College played a conspicuous part in securing and confirming the independence of the United States. The Revolutionary War caused a suspension of the activities of the college, and in 1776 the college building was used as a military hospital. After eight years the college work was resumed by act of the Legislature, May 1, 1784, under the name of Columbia College.

The original site of the college was in what became later the block bounded by College Place, Barclay, Church and Murray streets. From 1857-97 it was at Madison Ave. and 49th to 50th streets. In 1892, 17½ acres of land on Morningside Heights from 116th to 120th sts. were purchased for $2,000,000, and here in 1897 the college was reorganized as a university. It has 48 departments of instruction, and over 3,000 students yearly. J. Pulitzer gave $2,000,000 for a school of journalism, 1903. Hartley and Livingston dormitory halls were opened, 1905. Barnard (Ladies) Coll., Teachers Coll., and Natl. Acad. of Design schools, affiliated, are near. The central library building and other costly buildings including St. Paul's Chapel, completed 1907, form a fine group.

Columbus, city and capital of Muscogee county, Ga.; on the Chattahoochee river and the Central of Georgia and other railroads; 100 miles S. W. of Atlanta; is the trade center of the Chattahoochee valley; is in a corn, cotton, and fruit section; and has large cotton mills, cotton compresses, flour mills, and iron works. Pop. (1910) 20,554.

Columbus, a city, capital of the State of Ohio, and county-seat of Franklin county; on both sides of the Scioto river, about 70 miles from its mouth; and 100 miles N. E. of Cincinnati. It is the center of 18 railroad lines, and the fourth city in the State in population and importance. Area, 16½ square miles. Pop. (1900) 125,560; (1910) 181,548.

Columbus, Christopher, (in Spanish CHRISTOVAL COLON; in Italian, CHRISTOFORO COLOMBO, which is his real name), born in Genoese territory, probably between 1430 and 1450. The place of his birth is as uncertain as the year, several towns in Genoese territory (among others Genoa itself) and at least one town out of it, claiming the honor; but it seems to be established that the last claim at least is unfounded. His father, Domenico Colombo, a poor wool-comber, gave him a careful education. He soon evinced a strong passion for geographical knowledge, and an irresistible inclination for the sea. The details of his early life are confused and unsatisfactory. He appears to have gone to sea at an early age, and to have navigated all parts of the Mediterranean and some of the coasts beyond the Straits of Gibraltar.

In 1470 we find Columbus at Lisbon, where he married the daughter of Bartolommeo de Palestrello, a distinguished navigator, who had founded a colony in Porto Santo, an island recently discovered and belonging to the Madeira group, and had left many charts and nautical instruments. Columbus made use of these materials, and his opinion that the other side of the globe contained land, belonging to Eastern Asia and connected with India, which was, as yet little known, became more and more fixed. While the Portuguese were seeking to reach India by a S. E. course round Africa, he was convinced that there must be a shorter way by the W. He applied in vain to the city of Genoa for assistance, and equally fruitless were his endeavors to interest John II. of Portugal in the enterprise. He also sent letters on the subject to Henry VII. of England, with the same ill success. He then determined to apply to the Spanish court, Ferdinand and Isabella, being at this time the sovereigns of Spain, and after an eight years' struggle with the obstacles thrown in his way by ignorance and malice, he received three small vessels. These were named the "Pinta," the "Nina," and the "Santa Maria"; and according to Jal each of them was fully decked and had four masts and a crew of 90 men. The dignity of high-admiral and viceroy of all the countries he might discover was conferred on him, the former to be hereditary in his family. A certain share of the profits arising from his expedition was secured to him by a written contract with the sovereigns.

It was early in the morning of Fri-

day, Aug. 3, 1492, that Columbus set sail from the port of Palos. Eighteen years had elapsed since he conceived the idea of this enterprise. Having provided himself at the Canary Islands with fresh water, he sailed S. W. into an ocean never before navigated. But when 21 days had elapsed without the sight of any land, the courage of his men began to sink. It was certain, they said, that they should perish, and their visionary commander ought to be forced to return. Some of them even proposed to throw him overboard; and Columbus had to exert all the powers of his daring and commanding spirit to prevent an open rebellion.

The occurrence of a strange phenomenon, which surprised even him, filled his pilots with consternation: the needle deviated a whole degree. But the sea appeared suddenly covered with grass, and again showed symptoms of shoals and rocks. Numbers of birds were also seen. Columbus sailed in the direction from which they flew. For some days the voyage was continued with revived courage, till at last the dissatisfaction of the crews began to break out into open violence; but Columbus, after endeavoring to pacify his men by promises, finally assumed a different tone, and told them it was useless to murmur; that he was determined to persevere. Fully convinced that he must be near the land, he promised a reward to whosoever should first discover it. On the nights of Oct. 11 and 12 Columbus himself descried a light which sometimes flickered in the distance and sometimes disappeared, and at two o'clock in the morning of the 12th a cannon shot from the "Pinta" announced that a sailor belonging to that vessel had discovered land.

It was the island of Guanahani which Columbus believed to belong to Eastern Asia and to be connected with India, a belief which he carried with him to his grave. Hence the mistaken name of Indians applied to the natives of America, and that of West Indies applied to the group of islands of which Guanahani forms one. On landing Columbus threw himself on his knees and kissed the earth, returning thanks to God. The natives collected round him in silent astonishment, and his men, ashamed of their disobedience and distrust threw themselves at his feet, begging his forgiveness. Columbus drawing his sword planted the royal standard, and in the name of his sovereigns took possession of the country, which, in memory of his preservation he called St. Salvador. He then received the homage of his followers, as admiral and viceroy, and representative of the sovereigns.

Having received information from the natives that there was a rich gold country toward the S., Columbus directed his course toward that region, and reached Cuba on Oct. 28, and Espanola (Hispaniola, Haiti) on Dec. 6; but as one of his vessels was wrecked, and the other separated from him, he resolved to carry the news of his success to Spain. Having built a wooden fort from the wreck of his vessel, he left in it 39 volunteers, and set out on his return Jan. 4, 1493. The day after he left the island he met the "Pinta" which had been missing. Both vessels were afterward nearly wrecked in a tremendous storm. Columbus, more interested for his discovery than for himself, wrote an account of his voyage on a piece of parchment which he secured in a cask, and threw the whole overboard, in the hope that it might be carried ashore. He had hardly finished this work when the gale subsided. March 15, he reentered the port of Palos amid the acclamations of the people, the thunder of cannon, and the ringing of bells. He hastened immediately to Barcelona where the court then was, and entered the city in a triumphal procession with the productions of the newly discovered countries carried before him. A chair was placed for him next to the throne, and seating himself, he gave an account of his discoveries. He was created a grandee, and all the marks of royal favor were lavished on him.

On Sept. 25, 1493, he set sail from Cadiz with three large ships of heavy burden, and 14 caravels, carrying 1,500 men. On Nov. 3 he discovered the island of Dominica, and afterward Mariegalante, Guadeloupe, and Porto Rico, and on the 22d he arrived at Hispaniola. Finding the colony he had left destroyed, he built a fortified town, which he called in honor of the

queen, Isabella, and of which he appointed his brother Diego governor. He immediately left the island in order to make new discoveries, visited Jamaica, and returning after a voyage of five months, worn down with fatigue, found to his great joy that his brother Bartolommeo, who had escaped from his captivity, had arrived at Isabella with provisions and other supplies for the colony.

In the meantime a general dissatisfaction had broken out among his companions, who, instead of the expected treasures, had found hardships and labor. They set on foot many calumnies, and gave the most unfavorable description of the country and the viceroy. Columbus thought he could not better oppose these reports than by sending considerable treasures to his sovereigns, and for this purpose collected gold from the natives, which was not done without violence and some cruelty. Aguado, a personal enemy of Columbus, was sent as commissioner to investigate the complaints against the great discoverer, who, thinking it time to vindicate himself in the presence of his sovereigns, prepared to return to Spain. Having appointed his brother Bartolommeo adelantado, or lieutenant-governor, he embarked for Spain in March, 1496, with 225 Spaniards and 30 natives. In Spain calumny was silenced by his presence, and probably still more by his treasures. Yet his enemies were powerful enough to detain the supplies intended for the colony a whole year, and to retard the fitting out of a new expedition.

It was not till May 30, 1498, that he sailed with six vessels on his third voyage. To man these vessels criminals had unwisely been taken — a measure which Columbus himself had advised, and which had been taken up with great satisfaction by his enemies. Three of his vessels he sent direct to Hispaniola; with the three others he took a more S. direction for the purpose of discovering the mainland, which information derived from the natives induced him to supppose lay to the S. of his former discoveries. He visited Trinidad and the continent of America, the coasts of Paria and Cumana, and returned to Hispaniola, convinced that he had reached a continent. His colony had been removed from Isabella, according to his orders, to the other side of the island, and a new fortess erected called St. Domingo. Columbus found the colony in a state of confusion.

After having succeeded in restoring it to tranquillity by his prudent measures, in order to supply the deficiency of laborers he distributed the land and the inhabitants, subjecting the latter to the arbitrary will of their masters, and thus laying the foundation of that system of slavery which has lasted down to our time. His enemies, in the meantime, endeavored to convince his sovereigns that he had abused his power, and that his plan was to make himself independent, till at last even Isabella yielded to the wishes of Ferdinand, who had previously become convinced of the truth of the slanders. Francisco de Bobadilla was sent to Hispaniola, with extensive powers, to call the viceroy to account. As soon as he reached the island he summoned Columbus to appear before him, and put him in irons. His brothers were treated in the same manner; all three were sent to Spain, accompanied by a number of written charges, drawn up from the statements of the bitterest enemies of Columbus. Columbus endured this outrage with noble equanimity, and wrote, as soon as he had arrived in Cadiz, Nov. 25, 1500, to a lady of the court vindicating his conduct and describing in eloquent and touching language the treatment he had received. The fetters with which he had been bound he kept to the day of his death, and his son Hernando states that he even ordered that they should be inclosed with him in his coffin. Orders were immediately sent directing him to be set at liberty, and inviting him to court, where his sovereigns received him with the same distinction as formerly. Isabella was moved to tears, and Columbus, overcome by his long suppressed feelings, threw himself upon his knees, and for some time could not utter a word for the violence of his tears and sobbings. He then defended himself by a simple account of his conduct, and was reinstated to his dignities. Ferdinand even consented to dismiss Bobadilla which was intended for the first step toward the promised restoration of the great dis-

coverer in his dignities. But these dispositions in the monarchs were soon changed. There was much talk of great expeditions, and in the meantime Nicolas de Ovando y Lares was sent as governor to Hispaniola. Columbus still urged the fulfilment of the promises solemnly made to him; but after two years of delay he became convinced that there was no intention to do him justice.

But his noble mind had now learned to suffer, and he was principally desirous of completing his work. Supposing the continent which he had seen to be Asia, he did not doubt that he should find, through the Isthmus of Darien, a way to the East Indies, from which the first fleet of the Portuguese had just returned richly laden. In four slender vessels supplied by the court for this purpose Columbus sailed from Cadiz on his fourth and last voyage, May 9, 1502, with his brother Bartolommeo and his son Hernando; arrived contrary to his original intention off St. Domingo, June 29, and was denied permission to enter the port for the purpose of refitting his vessels, and escaping a storm that was approaching. He succeeded, nevertheless, in anchoring his small squadron in a place of safety, and rode out the storm while a fleet of 18 vessels, which had put to sea in spite of his warning, was almost entirely destroyed. He then continued his voyage to Darien, but without finding the expected passage. Two of his vessels were destroyed by a gale; the two others were wrecked off Jamaica, where he was scarcely able to save himself and his companions. Here the severest trials awaited the constancy of Columbus. Separated from the other part of the world, his destruction seemed to be certain. But he succeeded in procuring a few canoes from the natives, and prevailed on some of his boldest and best men to attempt a voyage to Hispaniola, in two canoes, in order to inform the governor of his situation. Several months elapsed without a glimpse of hope. Part of his companions, reduced to despair, rebelled, repeatedly threatened his life, separated from him, and settled on another part of the island. Here they alienated the minds of the natives by their cruel treatment so much that they ceased to bring them supplies. The death of all seemed inevitable; but Columbus, whose courage rose with the danger, preserved his men in this crisis.

He had fortunately ascertained that a total eclipse of the moon was about to take place, and threatened the natives with the vengeance of his God if they should persist in their enmity. As a proof of his assertion the moon, he said, would lose its light, in token of the chastisement which awaited them. When they beheld his threat verified they hastened to bring him provisions, and implore his intercession with the Deity. But hostilities now broke out between him and the rebels, in which several of the latter were killed, and their leader was taken prisoner. After remaining a year on the island, relief at last appeared. The two canoes had reached Hispaniola in safety, but the messengers could not prevail on the governor to undertake the deliverance of the admiral. They finally bought a vessel themselves, and it was on board this ship that Columbus left Jamaica, June 28, 1504. He went to St. Domingo, but only to repair his vessel, and then hastened back to Spain. He arrived in Spain sick and exhausted. The death of the queen soon followed, and he urged in vain on Ferdinand the fulfillment of his contract. After two years of illness, humiliations, and despondency, Columbus died in Valladolid, May 20, 1506. His remains were transported, according to his will, to the city of St. Domingo, but on the cession of Hispaniola to the French, they were removed in January, 1796, with great pomp, to the cathedral of Havana in Cuba. A splendid monument was erected to him in a convent at Seville, where his body lay before being transferred to St. Domingo. In 1898 the remains of the discoverer were removed to Spain, Cuba being no longer a Spanish possession since the war with the United States.

In the vigor of manhood Columbus was of an engaging presence, tall, well formed, and muscular, and of an elevated and dignified demeanor. His visage was long, his nose aquiline, his eyes light gray, and apt to enkindle. His whole countenance had an air of authority. Care and trouble had turned his hair white at 30 years of

age. He was moderate and simple in diet and apparel, eloquent in discourse, engaging and affable with strangers, and of great amiability and suavity in domestic life. His temper was naturally irritable, but he subdued it by the benevolence and generosity of his heart. Throughout his life he was noted for a strict attention to the offices of religion; nor did his piety consist in mere forms, but partook of that lofty and solemn enthusiasm with which his whole character was strongly tinctured. Of a great and inventive genius, a lofty and noble ambition, his conduct was characterized by the grandeur of his views and the magnanimity of his spirit. For further information respecting the life of Columbus various authorities are available to the inquirer. His son Ferdinand wrote a memoir, but the original is lost, though an early Italian version exists which has been translated into English and other languages. His own journal of his first voyage may also be read in English, both it and Major's "Select Letters of Columbus" being published by the Hakluyt Society.

Column, in architecture, a round pillar. In military tactics, a deep, solid mass of troops, formed by placing several bodies of men behind each other (sections, platoons, companies, squadrons, and even several battalions). The column is either an open or a close one.

Column of July, a monument erected in Paris, in 1840, on the site of the old Bastille in honor of the citizens killed in the revolt against the government in 1830.

Column of Trajan, a monument erected in Rome in 114 A. D. in honor of the Emperor.

Column of Vendome, a monument erected in the Place de Vendome, Paris, by Napoleon I., to commemorate his victories over the Russians and Austrians in 1805.

Coma, a morbid state which, if considered a distinct disease, is a milder form of apoplexy, but which may be properly regarded as a symptom rather than an idiopathic affection.

Comanches, an aboriginal tribe of North American Indians, whose hunting grounds were the regions now known as Texas and Northern Mexico. They were very numerous between 1700 and 1750, having a tribal organization under chiefs of their own selection. They hunted on horseback, and were estimated to number 400,000 when first encountered by the whites. They have dwindled to insignificant proportions, and in 1899 numbered 1,553, on a reservation in Oklahoma.

Combat, Single, a very ancient usage, evidenced by Goliath (1 Sam: xvii), and by Ajax in the "Iliad." The barbarous practice survives in European countries, without its excuse of superstition, in the modern duel, which is legally prohibited in the United States. Until the early part of the 19th century the law of England permitted the guilt or innocence of accused persons to be decided by combat between accuser and accused.

Combes, Justin Louis Emile, French statesman, born 1835. He became Minister of Education in 1895, and Premier in 1902. He has been distinguished by his anti-clericalism.

Combs, Leslie, diplomat, b. Little Compton, R. I., July 31, 1852. Identified with official positions in Kentucky; in 1902 he became min. to Guatemala; and 1906, min. to Peru.

Comédie Francaise, the national subsidized theater of France, formed in 1680 by the fusion of the two bodies into which Moliere's company of actors had split. It is managed under rules made in 1812, with later amendments.

Comedietta, a dramatic composition of the comedy class, but not so much elaborated as a regular comedy, and generally consisting of one or at most two acts.

Comedones, a name applied to the little cylinders of sebaceous and epithelial substance which are apt to accumulate in the follicles of the skin and to appear on the surface as small round black spots. When squeezed out they have the appearance of minute maggots or grubs, with black heads, and thence have derived their name.

Comedy, a dramatic representation of a light and amusing nature, in which are satirized pleasantly the weaknesses or manners of society and the ludicrous incidents of life.

Comets, those celestial bodies, which consist of a bright star-like nucleus, encircled by a coma, and having a nebulous train or tail often of great length. The singularity of their shape, and the irregularity of their appearance, terrified the ancients, who connected their visits with the great, especially the calamitous, events of nations. Their appearance, however, is no more remarkable than the appearance of the moon. They are so distant, and either their motions are so rapid, or their substance is so rare, that none of them have been found to have any material action on such of the planets as they have come near though the planets have had a considerable influence on them.

Comitia, with the Romans, the assemblies of the people in which the public business was transacted and measures taken in conformity with the will of the majority. They existed even under the kings.

Comity of Nations, the international courtesy by which effect is given to the laws of one State within the territory and against the citizens of another State.

Commander-in-Chief, the supreme commander of the united forces of any country. In the United States the President for the time being is commander-in-chief of the army and navy, and of the militia of the several States when the latter is in the National service and formed part of the National provisional army. In all other cases the governor of each State is the commander-in-chief of the State troops.

Commandery, among the Knights Templar, Hospitallers, etc., a district under the administration and control of a member of the order, called the commander or preceptor.

Commencement, in educational institutions, the day when graduates receive their diplomas.

Commensurable, an appellation given to such quantities or magnitudes as can be measured by one and the same common measure. Commensurable numbers are such as can be measured or divided by some other number without any remainder.

Commentary, a term used (1) in the same sense as memoirs, for a narrative of particular transactions or events, as the "Commentaries" of Cæsar. (2) A series or collection of comments or annotations.

Commerce, a mutual exchange, buying and selling whether abroad or at home; but in a more specific or limited sense it denotes intercourse or transactions of the character now described with foreign nations or with colonies; mutual exchange or buying and selling at home being designated, not commerce, but trade.

Commerce and Labor, Department of, an executive department of the United States government, created in 1903. It comprises the Divisions of Appointment, Publications, and Supplies; the Bureaus of Corporations, Manufactures, Labor, Census, Statistics, Fisheries, Navigation, Immigration, Naturalization, the Lighthouse Board, Coast and Geodetic Survey, and Steamboat Inspection Service.

Commercial Law, the law which regulates commercial affairs among the merchants of different countries or among merchants generally.

Commercial Treaties, compacts between two countries for the purpose of improving and extending their commercial relations; each country engaging to abolish or to reduce to an agreed rate or otherwise modify the duties on articles of production and manufacture imported from the one country into the other. They are usually for a limited period, but may be renewed and modified according to altering conditions.

Commissary, an ecclesiastical term, an officer of a bishop who exercises spiritual jurisdiction in remote parts of a diocese, or one intrusted with the performance of the duties in the bishop's absence. Also, in the army a term applied to officers charged with furnishing provisions, etc., for its use.

Commission, a formal act of trust; a warrant by which any trust is held or authority exercised. A written document, investing a person with an office or certain authority. A certificate issued by authority by which a military officer is constituted; as, a captain's commission. A body of persons joined in an office of trust, or their appointment; as, a building com-

mission. Brokerage, allowance, or compensation made to a factor, agent, etc., for transacting the business of another; as one per cent. commission on sales. Commission of bankruptcy, a commission appointed to investigate the facts relative to an alleged bankruptcy and to secure all available assets and effects for the creditors concerned. A commission merchant is one who sells goods on behalf of another, being paid by a certain percentage, called his commission. Putting a warship in commission is fitting her out for service after she has been laid up.

Commission Government, a form of municipal government that has recently become popular in the United States and been adopted in more than 100 large cities. It aims to put an end to partisan bossism, graft, and official corruption, by substituting for the ordinary municipal government one consisting of a mayor and a small commission. The various executive departments are divided between the commissioners, who are elected by the city at large; all franchises are submitted to popular vote; no ordinances passed by the commissioners can go into effect under 30 days; and within this period 10 per cent. of the voters can obtain a referendum to the entire body of voters if a proposed measure is deemed unwise.

Commodore, in the United States navy, formerly an officer ranking next above a captain. The grade was abolished in 1899, when all commodores became rear-admirals.

Commodus Antonius, Lucius Aurelius, a Roman Emperor: born in 161 A. D.; the son of Marcus Aurelius. He went so far in defiance of decency as to fight in the circus like a gladiator, and then gave himself out to be a god, and would be worshipped as Hercules. He was at last poisoned by Marcia (one of his concubines, whose life he had intended to take), and then strangled by an athlete. The vices and misgovernment of Commodus contributed powerfully to hasten the fall of the empire. He died Dec. 31, A. D. 192.

Common, that which belongs as a privilege or right equally to more than one, to many, or to the public at large; free to all; general; universal; public; having no separate owner; as, the common weal.

The word is also applied to an open and (generally) uninclosed space, the use of which is not restricted to any individual, but is free to the public or to a certain number.

Common Council, the council of a city or corporate town, empowered to make by-laws for the government of the citizens.

Commoner, in Great Britain, a term applied to all citizens except the hereditary nobility.

Common Law, the unwritten law, the law that receives its binding force from immemorial usage and universal reception, in distinction from the written or statute law. It consists of that body of rules, principles, and customs which have been received from former times, and by which courts have been guided in their judicial decisions. Wherever statute law, however, runs counter to common law, the latter is entirely overruled.

Common Pleas, in law, pleas brought by private persons against private persons, or by the government, when the cause of action is of a civil nature. In many States of the United States it is a court having jurisdiction generally in civil actions.

Common Prayer, Book of, the public form of prayer prescribed by the Church of England to be used in all churches and chapels, and which the clergy are to use under a certain penalty. The Book of Common Prayer is used also by the English-speaking Episcopal Churches in America, as well as by some non-Episcopal bodies.

Commons, the people who have a right to sit or a right to vote for representatives in the English House of Commons, and all who in England are under the rank of peers without reference to their voting privileges.

Common Schools, a term used in the United States as equivalent to the system of free public schools, originating in colonial times, and now universal throughout the Union, and justly regarded as the foundation of American liberty, progress and self-government. Its highest development is in the North, but it is making great progress in the South, and is

being extended to Cuba, Porto Rico, Hawaii, and the Philippine Islands.

Commonwealth, the state or condition of a country without any reference to the form of government under which it may be at the time. Owing to the semi-independent position of the States of the American Union the term commonwealth is of frequent application to the various members of the Union, Massachusetts being officially known as the "Commonwealth of Massachusetts." The new Australian Federation is known as the "Commonwealth of Australia."

The word is also applied to the period in the history of England during which the Parliamentary army and the Protector Oliver Cromwell exercised the power of government.

Commune, the unit or lowest division in the administration of France. In France there are about 36,000 communes, with a considerable measure of self-government, with the power of holding property, etc.

The rising of the Commune of Paris in 1871 was based on discontent at Paris, where the people found themselves in possession of arms after the siege of the Germans. The rising began on March 18, 1871, and was only suppressed 10 weeks later after long and bloody fighting between the forces of the commune and a large army of the central government, 6,500 Communists having fallen during May 20–30, and 38,578 been taken prisoners, many of whom were executed, and others transported.

Communion. In theology, the act of partaking with others of the sacramental symbols in the Lord's Supper.

Communism, a system of society in which common property is the recognized form. In later times it is an attempt to prevent or remedy the evils arising out of the inequalities of private property by holding property in common. But in primitive societies, in the hunting and pastoral stages of civilization, communism was universal.

Socialism is a vague phenomenon which must not be identified with communism. Yet the movement is largely colored with communistic conceptions, and in some of its schools a thoroughgoing communism is taught with lax notions as to the relation of the sexes. Different both from socialism and this aggressive communism are the communistic societies still existing in the United States. The latter are simply quiet efforts to realize for their members a happier state of things by community of property, but without a revolutionary propaganda and remote from the main current of modern social development.

Comnenus, the name of a family, originally Italian, of which many members occupied the throne of the Byzantine empire from 1057 to 1204, and that of Trebizond from 1204 to 1461.

Como, Lake, (anciently Lacus Larius), a lake in the N. of Italy, at the foot of the Alps; fed and drained by the river Adda, which carries its surplus waters to the Po. It is celebrated for the beautiful scenery of its shores, which are covered with handsome villas, gardens, and vineyards, mountains rising behind to the height of 7,000 feet.

Comoro Islands, a volcanic group in the Indian Ocean, between the N. extremity of Madagascar and the continent of Africa. They are four in number: Great Comoro, Mohilla, Johanna, and Mayotta. Mayotta belonged to France since 1843, and in 1886 the others became a French possession.

Company, a word of various applications, including:

(1) A number of persons legally associated for the performance of any duty or the carrying on of any business.

(2) The partners in any firm whose names do not appear in the title or style of the firm: in this use the word is generally contracted to Co.

(3) A society, corporation, or guild for the promotion and protection of the interests of any trade. When companies are authorized by the State or Government, they are termed corporations.

In military language, the smallest command of a captain of infantry. In the United States a company of infantry (full strength) numbers 100 men. In Europe it varies in strength from 48 rank and file (peace strength) to 120 (as in England), which is the limit of a dismounted officer's com-

mand, to 250 (as with the Continental armies), where the captain is mounted.

Comparative Anatomy, as distinguished from special anatomy; the science which examines and compares the structure of two or more different kinds of animals, so as to discover their points of resemblance and unlikeness; and as such it is a most important department of the science of biology.

Compass, an instrument used to indicate the magnetic meridian or the position of objects with respect to that meridian, and employed especially on ships and by surveyors and travelers. Its origin is unknown, but it is supposed to have been brought from China to Europe about the middle of the 13th century.

Compasses, a mathematical instrument used for describing circles, measuring lines, etc. They consist simply of two pointed legs movable on a point or pivot.

Competition, the act of endeavoring to gain what another endeavors to gain at the same time. In political economy it is simply the form taken by the struggle for existence as applied to industry.

Competition as applied to the public service is regulated by the state. The salaries in the various grades, and the conditions of employment, are fixed by authority. The chief material stimulus is the hope of promotion.

Complexion, the term generally used to signify the special color or hue of a person's skin.

Composite Order, a term denoting the last of the five orders of architecture. As its name implies, it is composed of two orders, the Corinthian and the Ionic.

Composition, an arrangement which a bankrupt or person in pecuniary difficulties makes with his creditors, and by which he arranges to pay them a certain proportion only of the debts due.

Compostella, Order of St. James of, an order of Spanish knights formed in the 12th century to protect the Christian pilgrims who flocked in vast numbers to Santiago-de-Compostella, where the relics of St. James were preserved. In time they attained great wealth, thereby exciting the jealousy of the crown, which succeeded in securing the grand-mastership in 1522, whereupon the order rapidly declined.

Compound Fracture, a fracture in which the bone is broken and the surrounding integuments have been pierced, making a wound from the external surface to the bone.

Compounding of Felony, the accepting of a consideration for forbearing to prosecute; or the agreeing to receive one's goods again from a thief on condition of not prosecuting. This is an offence punishable by fine and imprisonment.

Compound Spirits, rectified spirits to which has been added one or more flavoring ingredients. They are called also compounds.

Compound Steam-engine, a form of steam-engine originally patented by Hornblower in 1781, in which steam at a relatively greater pressure was allowed to expand in a small cylinder, and then, escaping into a larger cylinder, to expand itself against a larger piston.

Compressed Air, atmospheric air compressed by means of pumps, etc., and used in driving stationary and locomotive engines and excavating machines; as also in working pneumatic dispatch-tubes, railway-brakes, etc.

Compurgation, a mode of defense allowed by the Anglo-Saxon law in England, and common to most of the Teutonic tribes. The accused was permitted to call a number of men, styled compurgators, who joined their oaths to his in testimony to his innocence. They were persons taken from the neighborhood, or otherwise known to the accused, and acted rather in the character of jurymen than that of witnesses, for they swore to their belief, not to what they knew; that is, on the accused making oath of his innocence they swore that they believed he was speaking the truth.

Comstock Lode, a large and extremely rich metallic lode in the W. part of Nevada, on the E. slope of the Virginia mountains. To it belong the Big Bonanza and other mines, which have yielded gold and silver to the value of over $300,000,000.

Comte, Isidore Auguste Marie Francois Xavier, a French philosopher; born in Montpellier Jan. 12, 1798. He invented a religion which consists in referring the whole harmony of existence to, and concentrating its essence in one great Being, whom he termed Humanity. A system is propounded by him in which he has drawn up a regular calendar of demigods, presiding over the months, weeks, and days of the year, and having each their appropriate festivals. The thirteen months into which he divided the year he called Moses, Homer, Aristotle, Archimedes, Cæsar, St. Paul, Charlemagne, Dante, Gutenberg, Shakespeare, Descartes, Frederick, and Bichat. He himself assumed the office of high priest of this new religion, performing marriages and funeral rites on behalf of his disciples. He died in Paris Sept. 5, 1857.

Conaty, Thomas James, an American clergyman; born in Ireland, Aug. 1, 1847. He was graduated at Montreal Theological School and ordained a Roman Catholic priest. In 1896 he was made rector of the Catholic University of America, in Washington, D. C., and on Nov. 24, 1901, he was consecrated titular bishop of Samos.

Concentration Camp, a term that came into use during the last Spanish War in Cuba. It arose from the practice of the Spanish commander Weyler, gathering all the non-combatants of a district into one place, so that they could not give aid to their countrymen who were in arms. The British in the Boer War and the Americans in the Philippines established similar camps.

Conception, Immaculate, in the Roman Catholic Church, the doctrine that the Virgin Mary was born without the stain of original sin. It was received in the Roman Church as an opinion, but not as an article of faith till 1854, when the Pope issued a bull which makes the Immaculate Conception a point of faith.

Concerto, a composition for the display of the qualities of some especial instrument, accompanied by others and usually applied to a solo instrument in a band or orchestra.

Conch, a marine shell, especially of the Strombus gigas; and, in art, a spiral shell used by the Tritons as a trumpet, and still used by some African people in war.

Conchology, the science of shells. Two well-marked stages in its development are traceable. At first shells were studied without any reference to the animals of which they constituted the hard frame-work or skeleton. Subsequently the study took a wider scope, and for the first time became worthy of being called a science, when the animals and their shells were viewed as parts of one common whole. When shells were looked upon as little more than ornamental objects, those who studied conchology were not generally of a high order of intellect; but since the rise of geology and the discovery that, of all fossils, shells are able to furnish the most definite information regarding the several strata, and consequently regarding the history of bygone times, scientific minds of the very first class have given keen attention to them.

Conciergerie, La, a noted prison in Paris, which was a part of the Palais de Justice. Many royal prisoners were there confined, and during the Reign of Terror it was the scene of fearful butcheries, 328 prisoners being put to death in one week. Marie Antoinette went from her cell in this prison to her execution.

Conclave, the place where the cardinals assemble for the election of the Pope; also the electoral assembly of the cardinals themselves. Pope Gregory X., whose election had been delayed for three years, established in the council at Lyons (1274) the regulations of the conclave. The cardinals are shut up together in a particular suite of apartments in the palace where the pontiff dies, and they are supposed to have no communication with the outside world during the period of the election. The companion, either lay or clerical, whom the cardinal is allowed to take with him into the conclave during the election of a Pope is called a conclavist. The office is one of great delicacy and trust.

Concord, in music, the combination of two or more sounds pleasing

to the ear. Concords are the octave, the fifth, third, and sixth.

Concord, a town in Middlesex county, Mass., 20 miles west of Boston. It was for many years the seat of the famous Concord School of Philosophy, and is the site of the Concord State Reformatory. During the early part of the Revolution the Americans had a large stock of arms and military stores at Concord. Gen. Gage, the British Commander in Boston, hearing of this sent a body of soldiers to destroy these stores, and on their way they fought the battle of Lexington, the first of the war. When they reached Concord they destroyed what stores they could find, but were soon driven off by the Americans (April 19, 1775). Pop. (1900) 5,652; (1910) 6,421.

Concord, a city, capital of the State of New Hampshire, and county-seat of Merrimac county; 75 miles N. W. of Boston. Concord was settled by the whites in 1725, on the site of an Indian village, but till 1765 it was called Rumford. It became a city in 1853. It is noted as the place where Hannah Dustin, another woman, and a boy, who had been taken captive by Indians at Haverhill, Mass., killed the 10 Indians, when asleep, with hatchets, and so escaped. Pop. (1900) 19,632; (1910) 21,497.

Concord, city and capital of Cabarrus county, N. C.; on the Southern railroad; 21 miles N. E. of Charlotte; manufactures cotton and iron. Pop. (1910) 8,715.

Concordance, a book of reference in which all the important words in the Bible are arranged alphabetically — part of the verse being extracted with each. The first English Concordance to the New Testament was that of Thomas Gybson, before A. D. 1540; the first to the whole English version of the Bible that of Marbeck, A. D. 1550. The elaborate and well-known work of Cruden appeared first in 1737.

Concordat, a compact, a convention, or an agreement entered into between the Pope and a sovereign prince or a government for regulating the affairs of the Church within the kingdom. The most notable one was that between Pope Pius VII. and Napoleon Bonaparte in 1801, which was abrogated by the French Government in 1906.

Concrete, a composition used in building, consisting of hydraulic or other mortar mixed with gravel or stone chippings about the size of a nut. It is used extensively in building under water, and is frequently used to make a bed for asphalt pavements, or to form foundations for buildings of any kind.

Concubinage, the act or state of living with one of the opposite sex without being legally married.

Concurrent Jurisdiction, the jurisdiction of different courts authorized to take cognizance of the same kind of case.

Concussion of the Brain, a shaking of the brain produced by a sudden shock or any similar cause, and generally resulting in at least temporary insensibility. Sometimes recovery takes place in a few minutes, the sufferer first seeing everything inky black, then dark red, then pink, after which the landscape returns. In severer cases insensibility may remain for days instead of minutes. In the worst cases the coma is never removed, but is succeeded by the yet deeper sleep of death.

Concussion of the Spinal Cord, due to similar causes acting on the vertebral column instead of the head. The symptoms vary much with the site and severity of the injury. In many cases they are altogether absent or quite trivial at first, and only attract attention after some hours or days have elapsed; yet, and probably for this very reason, the injury not being treated at first, serious after-effects are much more common than in cases of concussion of the brain. Here also, however, complete recovery is the rule.

Condé, the name of a French family, the younger branch of the Bourbons, who took their name from the town of Condé, Department of Nord. The greatest of these was Louis, Prince of Condé, born in 1621, who defeated William of Orange, afterward William the Third, of England, at Senef in 1674, and died in 1686.

Condensation, the reduction of anything to another and denser form, as of a vapor or gas to a liquid, or a liquid to a solid; the passage of gases or vapors from the aeriform to the liquid state. It is sometimes called also the liquefaction of vapors.

Condensed Milk, milk reduced greatly in bulk and rendered proportionately denser.

Condenser, an apparatus for reducing to a liquid form the steam in front of the piston, so as to obtain a partial vacuum at that point, and thus utilize the natural pressure of the atmosphere.

Condiments, or seasoning agents, are those substances which are employed at table for the purpose of imparting a flavor or seasoning to the ordinary solid or liquid food.

Condonation, in the legal phraseology both of Great Britain and the United States, means forgiveness granted by the injured party, and may be urged by the guilty party as a defense against an action of divorce on the ground of adultery.

Condor, the popular name of the great vulture of the Andes. These birds prefer to dwell above all animal life, and at the extreme limit of even Alpine vegetation, inhaling an air too highly rarefied to be endured, unless by creatures expressly adapted thereto. The appetite of these birds seems to be limited only by the quantity of food that can be gorged into their stomachs; and when thus overloaded they appear sluggish, oppressed, and unable to raise themselves into the air. But the condor does not exclusively feed upon dead or putrefying flesh; he attacks and destroys middling-sized or small quadrupeds; and when pinched by hunger a pair of these birds will attack a bullock, and by repeated wounds from their beaks and claws harass him until from fatigue, he thrusts out his tongue, which they immediately seize and tear from his head. It does not appear that they have ever attacked men.

The nesting-time of the condor varies with the latitude, and the place selected for the nest is usually some inaccessible ledge of rock. It lays two white eggs from 3½ to 4 inches long, which are hatched in about seven weeks. The development of the young birds is very slow since they are not able to fly until they are a year old, and they have to remain with the parent birds for a year or two longer. They are ocasionally seen even on the shores of the southern ocean, in the cold and temperate regions of Chile, where the Andes so closely approach the shores of the Pacific.

Condorcet, Marie Jean Antoine Nicolas de Caritat, Marquis de, a French writer; born near St. Quentin, Sept. 17, 1743. During the troubles of the first French Revolution his sympathies were strongly engaged on the side of the people. By the city of Paris he was elected deputy to the legislative assembly, of which he was soon appointed secretary, and in February, 1792, president. On the trial of Louis he was in favor of the severest sentence not capital; at the same time he proposed to abolish capital punishments, except in case of crimes against the State. The fall of the Girondist party, May 31, 1795, prevented the constitution which Condorcet had drawn up from being accepted, and as he freely criticised the constitution which took its place, he was denounced as being an accomplice of Brissot. Lest he should endanger the safety of Madame Verney who had given him refuge, he fled from Paris, and wandered about till arrested and thrown into prison, where, March 28, 1794, he was found dead on the floor, having apparently swallowed poison.

Condottieri, a class of mercenary adventurers in the 14th and 15th centuries, who commanded military bands, amounting to armies, on their own account, and sold their services for temporary engagements to sovereign princes and States.

Conduit, a line of pipes or an underground channel of some kind for the conveyance of water.

Cone, in geometry, a solid figure described by the revolution of a right-angled triangle about one of the sides containing the right angle, which side remains fixed.

Coney Island, a small island in the Borough of Brooklyn, about 10 miles S. E. of New York city. It is

about 5 miles in length and from half to three-quarters of a mile in width; separated from the mainland by Coney Island creek. It is connected with New York and Brooklyn by steam and electric railroads and steamboat lines. It is a popular summer resort.

Confederate States of America, The, the name adopted by the Southern States when they seceded from the Union and formed a government at Montgomery, Ala., Feb. 4, 1861. The Constitution of the Confederate States was modeled after that of the Federal Constitution, and in some important differences has won the approval of even Northern statesmen. It recognized Almighty God and invoked His favor and guidance. It guarded carefully the doctrine of the "sovereignty of each State." It expressly forbade the slave trade, or the importation of slaves from any foreign country other than the slave-holding States and Territories of the United States. It forbade "bounties" or "trusts" of any kind, and provided a "tariff for revenue." It gave Cabinet officers the privileges of the floors of its Congress, allowed the President to veto any part of a bill and approve the remainder, giving his reasons for such action, and fixed the term of office of the President at six years and made him ineligible for a second term.

Confederate Veterans' Association, a federation of all organizations of survivors of the Civil War on the Southern side. This association was organized at New Orleans, June 10, 1889. Its avowed purpose is strictly social, literary, historical, and benevolent.

Confederation, Articles of, a form of constitution adopted by the Continental Congress of the United States in 1777 and ratified by the colonies in the next four years. It provided for a Congress of one house only, in which each State should have one vote. This body was empowered to declare war and peace, make treaties with foreign powers, regulate the value of coin, etc., but as it had no power to enforce its laws upon the States, it soon fell into contempt and on March 4, 1798, expired by limitation under the provisions of the present Constitution.

Confederation of the Rhine, the league of Germanic States formed by Napoleon Bonaparte in 1806, and including Bavaria, Wurtemberg, Baden, Hesse-Darmstadt, the Kingdom of Westphalia, etc. It extended over 125,160 square miles, and comprised 14,608,877 inhabitants. The failure of Napoleon's Russian campaign of 1812 shook the structure, and the league soon after broke up.

Conference, in diplomacy, a meeting of the representatives of different powers for the purpose of adjusting differences; also, an annual gathering of the ministers, with a number of lay representatives of the several Methodist congregations, to deliberate upon the affairs of the religious denomination to which they belong.

Confession, act of confessing; that which is confessed; acknowledgment of a crime or fault; open declaration of guilt, failure, debt, accusation, etc.; avowal; profession; disclosure of sins or faults to a priest; a formulary of articles of faith; a creed. In law, confession is where a prisoner indicted of an offense, and brought to the bar to be arraigned, upon the indictment being read to him, and the court demanding what he can say thereto, confesses the offense and indictment to be true. Confession, in civil cases, is where the defendant confesses the plaintiff's right; or, in prosecutions under penal statutes, by which confession there may be a mitigation of a fine against the penalty of a statute, though not after a verdict.

Confessional, in Roman Catholic churches and chapels, a kind of inclosed seat in which the priest sits to hear persons confess their sins.

Confession of Faith, a statement of religious beliefs; a kind of elaborate creed. What is most distinctively known by this name is the document prepared by the Assembly of Divines which met at Westminster in obedience to an ordinance of Parliament issued June 12, 1643.

Confirmation, the act of confirming; that which confirms; additional evidence; proof; convincing testimony; assurance; establishment; ratification; as the confirmation of a treaty.

In theology, the laying on of hands by the bishop, for the conferring of the grace of the Holy Spirit; a rite by which a person arrived at years of discretion takes on himself the performance of the baptismal vow made for him by his sponsors.

In law, a deed of conveyance at common law, whereby an estate or right which is voidable is made sure and unavoidable,

Confiscation, the act of condemning as forfeited, and adjudging to the public treasury, the goods of a criminal in part punishment of a crime. The subject of confiscating the property of those in rebellion was warmly discussed both in and out of the United States Congress, at the beginning of the Civil War, and a bill to that effect was finally passed by Congress, and approved by President Lincoln, in 1862. The decision of the courts that confiscated property could be held only during the lifetime of the offender, and not against his heirs, practically nullified measures of confiscation.

Confucius, or **Kongfutse,** that is, "the teacher, Kong," the famous Chinese sage; born about 550 B. C. in the province of Shan-tung, then belonging in part to the small vassal kingdom of Lu. The deaths of his favorite disciples Yen Hwin and Tze-lu 481 and 478 did much to further his own, which took place in the latter year. Confucius left no work detailing his moral and social system. The teaching of Confucius has had, and still has, an immense influence in China, though he can hardly be said to have founded either a religion or a philosophy. All his teaching was devoted to practical morality and to the duties of man in this world in relation to his fellowmen; in it was summed up the wisdom acquired by his own insight and experience, and that derived from the teaching of the sages of antiquity. It is doubtful if he had any belief in a personal god.

Conger, Edwin Hurd, an American diplomatist; born in Knox county, Illinois, March 7, 1843. Enlisted in the Union army, attaining the brevet rank of major. At the close of the Civil War he studied law, beginning the practice of his profession in Galesburg, Ill., and removing to Iowa in 1868. He was elected to Congress in 1884 and twice reëlected as a Republican. In 1890 he was appointed Minister to Brazil, serving four years. In 1897 he was again appointed to that post and in the following year was transferred to China. He was at his post throughout the Chinese crisis of 1900, in Peking, being imprisoned with his family and the entire diplomatic corps in the British legation compound from June 20 to Aug. 15. They were rescued by the allied forces barely in time to save all from a general massacre. He returned to the U. S. in May, 1901; ran unsuccessfully for Governor of Iowa; in March, 1905, was appointed ambassador to Mexico, but resigned the following October. He died May 18, 1907.

CONGER-EEL.

Conger, a large sea-eel, 5, 6, or, in rare cases, even 10 feet long. Its upper parts are brownish-white, and the lower dirty-white; the lateral line spotted with white, the dorsal and anal fins white margined with black. A smaller species is found in the Mediterranean.

Congestion, an abnormal accumulation of blood in the capillary vessels, speedily producing a disordered function of the capillaries themselves.

Conglomerate, in geology, pebbles, gravel, or any similar collection of rounded water-worn fragments of rocks, the whole bound together by a silicious, calcareous, or argillaceous cement.

Congo. See KONGO.

Congregation, an assembly, generally a religious assembly; in its most ordinary use, an assembly of Christians met in one place for worship. The word is also used in the Church of Rome to describe communities of ecclesiastics who live together under rule, but without being bound by vow, or at least by solemn vow. The papal boards at Rome in charge of departments of church service are also called Congregations.

Congregationalism, or **Independency,** a form of evangelical Christianity which vests all ecclesiastical authority in the individual believers associated in a local church, complete in itself, but holding advisory coöperative relations with similar bodies. Congregationalism holds in common with other evangelical Christians the great facts of sin and of redemption through the incarnation and atonement of Christ as taught in the Bible. Congregationalism denies that there is any authority in Scripture for uniting the churches of a nation or province into one Church or corporation, to be ruled by a bishop or bishops, superior to the bishop or pastor of the particular congregations or by a presbytery or a synod consisting of the pastors or elders of the several congregations of the nation or province. This principle of Church polity is the specialty which plainly distinguishes Congregationalism from Episcopacy, Presbyterianism, Methodism, and other denominations whose churches are organized into a body having over its members any authority other than advisory. Usually each church has one minister or pastor, who is chosen by the free suffrages of the membership, but there may be more than one. In addition to the pastor or pastors, home missionaries and evangelists are sometimes appointed. Home missionaries and evangelists, if employed by a church for local service, are under the supervision of the church and not of the pastor, save as he is an agent of the church. Those commonly known as home missionaries and many evangelists, while members of some local church, are usually clergymen who have been formally inducted into the ministerial office according to the usages of the denomination.

Standing in the ministry is given (1) by the action of the church authorizing one of its members or any other person it may deem qualified to exercise ministerial functions; (2) by the action of a voluntary association of Congregational ministers approving a candidate after due examination, and commending him for a limited time as such to the churches; (3) by an action of a Council of Churches called by some local church or acting in its name, ordaining a man as pastor or evangelist or missionary, or installing a minister as pastor of the church calling the council. The secular affairs of the church are administered by trustees appointed by the church, not all necessarily members of the church. In some matters, like calling and installing a pastor, the church and the society act conjointly. The principles of this polity are held also by the Baptists, Unitarians, Universalists, and other denominations.

The first Congregational Church in England, of which there was any record, was formed in London about 1571. One of the most famous of the early churches in England was formed at Scrooby, in Lincolnshire. It met in the house of William Brewster, under the pastoral care, for a time, of Richard Clyfton. The famous John Robinson, M. A., succeeded him, and many regard him as the true founder of Independency. To escape persecution, members of this Church fled to Holland, from whence, through the influence of John Robinson, after 12 years, they crossed the Atlantic and landed at New Plymouth, the Pilgrim Fathers of the "Mayflower." In the cabin of the "Mayflower" was signed the famous compact which might be called the magna charta of American Congregationalism.

In 1638 Harvard College was founded. In 1658 the Savoy Confession was adopted, and still remains. Unitarian principles spread, about 1800, widely in the Congregational churches of America, and though a separation took place between the Unitarians and the Trinitarians, both still retain the Congregational form of church government. "Congregationalism," according to Dr. Schaff, is the ruling sect of the six Northeastern States, and has exerted, and still exerts, a beneficial

influence upon the religious, social, and political life of the whole nation."

In addition to the Conference, or Association of Churches, by which they coöperate for common ends, a National Council meets triennially "for advisory and not juridical ends." Its declaration, like that of a council of local churches, "hath so much force as there is in the reason of it." In the United States Congregationalists have over 5,700 organizations, 5,790 churches, and 700,000 members. There are six National Societies, through which the charities of Congregationalists mainly flow.

Congress, an assembly either of sovereign princes, or of the delegated representatives of sovereign States, for the purpose of considering matters of international interest. In the United States, though the term has now a different meaning, it had a similar origin, the first congress being that of the delegates from the various British colonies, who met on Oct. 7, 1765, for the purpose of considering their grievances. Previous to signing a treaty of peace, a meeting of plenipotentiaries usually takes place, to which the name of a congress is sometimes applied, though it seems more properly to be reserved for those more important meetings at which extensive schemes of future policy are determined on, and the balance of power among the various European states readjusted.

Congress, Library of, an institution in Washington, D. C., which, despite its restricted name, is really the National Library of the United States. The Library of Congress was established in 1800, destroyed in 1814 by the burning of the Capitol, afterward replenished by the purchase by Congress of the library of ex-President Jefferson, in 1851; 35,000 volumes destroyed by fire; in 1852, partially replenished by an appropriation of $75,000; increased (1) by regular appropriations by Congress; (2) by deposits under the copyright laws; (3) by gifts and exchanges; (4) by the exchanges of the Smithsonian Institution, the library of which (40,000 volumes) was, in 1866, deposited in the Library of Congress, with the stipulation that future accessions should follow it. Fifty sets of Government publications are placed at the service of the Library of Congress for international exchanges through the Smithsonian.

The collection in the main library is now the largest single collection in the Western Hemisphere. It comprises 750,000 printed books, 250,000 pamphlets, 26,500 manuscripts, 52,000 maps and charts, 277,000 pieces of sheet music, and upward of 90,000 photographs, prints, engravings, and lithographs. The law library of 103,000 volumes is not included. The main collection is rich in Federal documents, history, political science, jurisprudence, and Americana in general, including important files of American newspapers and original manuscripts. The exhibition cases on the second floor contain many rare books, including the records of the Virginia Company. The Smithsonian deposit is strong in scientific works, and includes the largest assemblage of the transactions of learned societies which exists in this country.

In 1897 the main collection was removed from the Capitol to the building erected for it under the acts of Congress. The building occupies three and three-quarter acres upon a site 10 acres in extent at a distance of 1,270 feet E. of the Capitol, and is the largest and most magnificent library building in the world. The floor space is 326,195 square feet, or nearly 8 acres. The book stacks contain about 45 miles of shelving, affording space for 2,200,000 volumes. Were the long corridors, now used in part for exhibition purposes, completely shelved, the building would accommodate over 4,000,000 volumes. The library contains a reading room for the blind.

Congressman at Large, in the United States, a member elected to the House of Representatives by the voters of the entire State instead of by districts.

Congress of Religions, an assemblage of representatives of all the Christian denominations and other religious bodies of the world, held at Chicago during the World's Columbian Exposition of 1893.

Congress of the United States, the legislative branch of the Federal Government, deriving its powers from the Constitution. It consists of a

Senate and a House of Representatives. The powers of Congress are enumerated in Article 1, section 8, of the Constitution, and all powers not granted to Congress, or prohibited to the States, are reserved to the States or to the people; but the power of Congress is absolute within the scope of its authority. The Senate is composed of two members from each State, the members of the House are apportioned on the basis of population. Bills that have passed both Houses are sent to the President, who may either sign or veto them, or do neither, in which case the bill becomes a law after 10 days unless Congress has previously adjourned. Legislation exceeding the constitutional power of Congress will be declared unconstitutional by the Supreme Court, if that body is appealed to by either party to any controversy arising in an attempt to enforce such laws. Each House is, by the Constitution, "the judge of the elections, returns and qualifications of its own members."

Conibos, a tribe of Indians in Eastern Peru, allied to the Ucayale tribe. The Spanish missionaries tried to convert them in 1683, but were driven out after 1695, when Father Ritchie was killed by the savages. They were an agricultural people and built villages. They are now partially civilized and are often employed as canoe men and rubber gatherers.

Conic Sections, three curves, the hyperbola, the parabola, and the ellipse; so called because these curves are formed by the intersection of the surface of a cone with planes that cut the cone in various directions.

Conium, a genus of umbelliferous plants, including the common hemlock. Various species of hemlock occur in this country, Europe and Asia.

Conjunction, in astronomy, one of the aspects of the planets. Two heavenly bodies are in conjunction when they have the same longitude — that is, when the same perpendicular to the ecliptic passes through both. If they have, at the same time, the same latitude they appear from the earth to be in the same spot of the heavens, and to cover one another. The sun and moon are in conjunction at the period of new moon.

Conjunctiva, the mucous membrane which lines the inner surface of the eyelids and the fore part of the globe of the eye. Conjunctivitis is an inflamed state of the conjunctiva.

Conjuring, the production of effects apparently miraculous by natural means. The earlier professors of the art claimed supernatural powers; and in ages when the most elementary principles of physical science were unknown beyond a very limited circle, it was not difficult to gain credence for such a pretension. The modern conjurer makes no such claim, but tells the public frankly that his marvels are illusory, and rest either on personal dexterity or on some ingenious application of natural principles. See LEGERDEMAIN.

Conklin, Jennie Maria (Drinkwater), an American author; born in Portland, Me., April 14, 1841. She was educated in the public schools, and while still in her teens won fame with her stories for children. In 1880 she married Rev. Nathaniel Conklin. She originated the "Shut-In Society," an organization of invalids for correspondence. She died in New Vernon, N. J., April 28, 1900.

Conkling, Roscoe, an American legislator; born in Albany, N. Y., Oct. 30, 1829; was admitted to the bar in 1850; sat in Congress as a Republican, and was elected to the United States Senate. He became an influential member of his party; in 1876 he received 93 votes for the Presidential nomination, and in 1880, by his support of Grant and his personal opposition to Blaine, divided the Republicans into two sections. In 1881 he and his colleague, Thomas C. Platt, suddenly resigned from the Senate owing to a dispute with President Garfield on a question of patronage, and sought reëlection; but both were rejected, though vigorously supported by Vice-President Arthur. Conkling afterward practised law in New York city. He died April 18, 1888.

Connaught, H. R. H, Prince Arthur, Duke of, third son of late Queen Victoria and uncle of King George V.; born, 1850; married Princess Louise of Prussia in 1879; became British and Prussian field-marshal; succeeded his brother (King Ed-

ward VII.) as Grand Master of Free Masons; appointed Gov.-Gen. of Canada, suceeding Earl Grey in 1911.

Connecticut, a State in the North Atlantic division of the North American Union; bounded by Massachusetts, Rhode Island, Long Island Sound, and New York; gross area, 4,845 square miles; one of the original 13 States; number of counties, 8; population (1900) 908,355; (1910) 1,114,756; capital, Hartford. Connecticut lies on the S. slope of the New England hill region. The highest elevation is Bear Mountain, Salisbury, 2,354 feet. The State is drained by three large rivers and their tributaries; the Connecticut, rising in New Hampshire, bisects the State in a N. and S. direction, and is navigable for 50 miles; the Thames, formed by the Shetucket, Yantic, and Quinnebaug, is navigable as far as Norwich; and the Housatonic, with its main branch, the Naugatuck, navigable to Derby. The coast line is about 100 miles in length and affords many excellent harbors, of which New Haven and New London are the largest.

The climate is temperate, and there are no swamps or marshes. The trees include several varieties of oak, pine, cedar, tamarack, chestnut, beech, wild cherry, ash, basswood, hickory, walnut, willow, poplar, dogwood, sycamore and holly.

Of various mineral productions iron ore is the most abundant. Copper and lead exist, but have never been mined with much profit. Silver occurs in minute quantities. There are immense quarries of red sandstone at Portland and Cromwell, and marble and limestone is quarried at Canaan and Washington, while the largest amount of orthoclase quarried in the United States comes from Glastonbury and Middletown. The agricultural interests of the State are very important. Cereals, fruits, and vegetables grow in great abundance in the W. valleys, and tobacco in the valley of the Connecticut.

Connecticut is one of the foremost manufacturing States in the Union. In 1900 there were 9,128 manufacturing establishments reported, employing $314,696,736 capital and 176,694 persons; paying $82,767,725 for wages and $185,641,219 for materials; and having a combined output valued at $352,824,106. The principal articles were rolled brass and copper, foundry and machine shop products, hardware, cotton goods, woolen goods, silk and silk goods, plated and britannia ware, hats and caps, brass castings and finishings, corsets, and worsted goods.

Education is compulsory, and the public schools are conducted on the highest plane. The strongest religious denominations numerically in the State are the Roman Catholic, Congregational, Methodist Episcopal, Protestant Episcopal, Baptist, Lutheran, Presbyterian, and Disciples of Christ.

The total length of railroads within the State Jan. 1, 1900, was 1,024.55 miles, of which 16.40 miles were constructed during the previous year.

The governor is elected for a term of two years and receives a salary of $4,000 per annum. Legislative sessions are held biennially. The Legislature has 258 members in the House and 35 in the Senate, each elected for a term of two years, and receive $300 for the regular sessions and mileage one way at 25 cents per mile. Connecticut sends five Representatives to Congress.

The first settlement in Connecticut was made at Hartford, in 1633, by the Dutch. The first constitution was adopted in Hartford in 1639, and formed the basis of the charter of 1662. In 1686 the royal governor, Andros, attempted to obtain the charter, but it was hidden in the hollow of an oak tree. On the dethronement of James II. the Colonial government resumed its functions. Connecticut took an active part in the French-Indian, Revolutionary, 1812, and Civil Wars. She instructed her delegates in the Continental Congress to propose a declaration of independence, and was the fifth State to ratify the Federal Constitution. The Hartford Convention, most memorable of gatherings in the State, assembled Dec. 15, 1814. It protested against the war with England and against the action of the National Government with reference to State defense. This convention, which adjourned Jan. 5, 1815, raised the Federal party in the estimation of the people.

Connellsville, a borough in Fayette county, Pa.; on the Youghiogheny river and the Baltimore & Ohio and other railroads; 53 miles S. E. of Pittsburg; is best known as the largest coke-making place in the world. Pop. (1910) 12,845.

Connelly, Celia Logan, an American journalist and popular author; born in Philadelphia, in 1839; died June 18, 1904.

Connelly, James H., an American journalist; born in Pittsburg, Pa., in 1840. He began newspaper work when 17 years old. His writings include short stories and special articles for newspapers and magazines, and novels. He died in 1903.

Connemara ("the Bays of the Ocean"), a boggy and mountainous district occupying the W. portion of county Galway, Ireland; about 30 miles in length and 15 to 20 miles in breadth. Its coasts are very broken, and there are numerous small lakes.

Conning Tower, the place in modern battleships where the commander stands during a naval engagement, and from which he directs the movements of the ship and men.

Conon, an Athenian general, was the son of Timotheus. Having been defeated in a naval engagement at Ægospotamos by Lysander, he for a time went into exile; but being aided by Artaxerxes, King of Persia, he returned and defeated the Spartans near Cnidos, 394 B. C. Conon then began to rebuild the fortifications of Athens, and restored it to liberty and security; but being sent on a political mission to Tiribazus, a Persian satrap, he was imprisoned, and it is not known what became of him.

Conrad, George, pseudonym of Prince George of Prussia; a German dramatist; born Feb. 12, 1826.

Conrad, Robert Taylor, an American lawyer and dramatist; born in Philadelphia, June 10, 1810; died there, June 27, 1858.

Conradin, the son of Conrad IV., Duke of Suabia, and the last of the house of Hohenstauffen; born in 1252. As the greatest part of the possessions of his family had been swept away, Conradin accepted the invitation of the Italian Ghibellines to place himself at their head. He crossed the Alps with 10,000 men; was well received at Verona, and, notwithstanding the treason of his relatives Meinhard and Louis of Bavaria, who left him with but 3,000 men, he entered South Italy. Charles d'Anjou, on whom the crown of Naples had been bestowed by Pope Urban IV., met Conradin at Tagliacozzo, defeated him, and caused him to be beheaded, in 1268.

Conrad von Wurzburg, one of the most celebrated poets of the Middle Ages. His last poem, which he left in an unfinished condition, has for its subject, "The Trojan War." He died in Basel in 1287.

Consanguinity, the quality or state of being related by blood; nearness of kin; descent from a common ancestor.

Conscience, the moral sense, the internal monitor which signifies approval when we do well, and inflicts more or less acute and lasting pain when we act sinfully.

Conscience, Hendrik, a Flemish novelist, one of the re-creators of Flemish literature; born in Antwerp Dec. 3, 1812. His first story, "In the Wonder-Year 1566," was received with popular favor, and his delineations of lowly Flemish home life became familiar throughout Europe. He died in Brussels Sept. 10, 1883.

Conscience Money, stolen or wrongfully acquired money returned to its rightful owner when conscience is awakened to a sense of right dealing. In the United States such money paid into the Treasury at Washington by self-avowed debtors anonymously is known as the Conscience Fund.

Consciousness, the state of being conscious; knowledge or perception of what passes in one's own mind. The act of the mind which makes known an internal object. Internal sense or knowledge of guilt or innocence. Consciousness is the recognition by the mind of its own acts.

Conscription, the enlisting of the inhabitants of a country capable of bearing arms, by a compulsory levy, at the pleasure of the government.

During the American Civil War conscription was enforced both North and South. In the South every man and boy able to shoulder a gun was

obliged to serve, except those absolutely needed as millers, bakers, and in other necessary occupations.

Consecration, the act of solemnly dedicating a person or thing to the service of God. In the Jewish law, rites of this nature are frequently enjoined, the Levites and priests, the tabernacle and altar, etc., being specially dedicated or consecrated to God.

Consent, in law, is understood to be a free and deliberate act of a rational being. It is invalidated by any undue means — intimidation, improper influence, or imposition — used to obtain it. Idiots, pupils, etc., cannot give legal consent; neither can persons in a state of absolute drunkenness.

Consequential Damages, in law, are such losses or damages as arise out of a man's act, for which, according to a fundamental principle in law, he is answerable if he could have avoided them. The same law applies to railways and corporations generally, as determined in numerous cases.

Conservative, as applied to one of the two great parties in English politics, was first used by J. W. Croker in an article in the "Quarterly" for January, 1830, and was by Macaulay in the "Edinburgh" for 1832 referred to as a "new cant word." Conservative accordingly began to supersede Tory about the time of the Reform Bill controversies. The plural form of the word has been assumed as a distinctive name by certain political parties in many nations. These parties are sometimes actually, and always avowedly, opposed to changes from old and established forms and practices. In United States history these names have never been in general use, but in Van Buren's administration the name of Conservatives was applied to those Democrats that at the special session of Congress, of September, 1837, opposed the establishment of the sub-treasury system. In the Congress that met in December, 1839, they had practically disappeared. The name was also assumed by Southern whites during the reconstruction period following the Civil War, to show their adherence to the old State governments, the abolition of which by Congress they opposed. The name was also used at the North during this period. The Democrats applied it to themselves to draw moderate Republican votes.

Conservatory, a name given to a systematic school of musical instruction.

The term in gardening, is generally applied by gardeners to plant-houses, in which the plants are raised in a bed or border without the use of pots, the building being frequently attached to a mansion. The principles of their construction are in all respects the same as for the green-house, with the single difference that the plants are in the free soil, and grow from the floor instead of being in pots placed on shelves or stages.

Considérant, Victor-Prosper, a French Socialist; born in Salins in 1808. After being educated at the Polytechnic School of Paris, he entered the army, which, however, he soon left to promulgate the doctrines of the Socialist Fourier. On the death of his master (1837), Considérant became the head of his school, and undertook the management of the "Phalange," a review devoted to the spread of their opinions. Having gained the support of a young Englishman, Mr. Young, who advanced the money Considérant established, on a large estate in the department Eure et Loire, a socialist colony, but the experiment failed, and with it the "Phalange" fell to the ground. In 1849 Considérant was accused of high treason and compelled to flee from France. In Texas he founded a socialist community, which flourished for a time, but afterwards came to nothing. Considérant returned to France in 1869. He died Dec. 27, 1893.

Consideration, in law, the thing given, or done, or abstained from by agreement with another, and in view of that other doing, giving, or abstaining from something.

Consignment, a mercantile term which means either the sending of goods to a factor or agent for sale, or the goods so sent. The term is chiefly used in relation to foreign trade. In most countries a consigner can claim his goods and collect all outstanding debts for goods sold on his account by

a consignee who has suspended payment.

Consistory, an assembly of ecclesiastical persons; also certain spiritual courts holden by the bishops in each diocese. At Rome the consistory denotes the judicial court constituted by the college of cardinals. The representative body of the reformed church in France is styled consistory.

Consols, securities of a consolidated indebtedness, whether of public or private corporations, are in England quoted as consols. The term is generally applied to the British public debt securities, which, in September, 1903, were at the lowest figure for many years.

Consort, he, she, or that which shares the same lot with another; a companion; a partner; an intimate associate; a wife or husband; applied in a modern sense chiefly to persons of royal degree or position, in countries where women are able to reign. It is also applied to a ship sailing in company with another.

Conspiracy, a secret agreement or combination between two or more persons to commit any unlawful act that may injure any third person or persons. Specifically a combining falsely and maliciously to indict, or to procure the indicting or conviction of any innocent person of felony. In June, 1900, the House Committee on the Judiciary, of the United States Congress, reported a bill that aroused widespread interest in the labor and business world because it contained a definition of the word conspiracy. The bill provided that no agreement or contract between two or more persons to do, or not to do, any act in contemplation or furtherance of any trade dispute between employers and employees in any Territory of the United States, or who may be engaged in interstate or foreign trade, shall be deemed criminal, nor shall those engaged therein be indictable or punishable for the crime of conspiracy if such act committed by one person would not be punishable as a crime, nor shall any injunction be issued with relation thereto. Provided, that the provisions of this act shall not apply to threats to injure the person, property, business or occupation of any person, firm, or corporation, to intimidation or coercion, or to any acts causing or intended to cause an illegal interference by overt acts with the rights of others.

Constable, in the Middle Ages, an officer under certain European crowns, who had the command of the army, and the cognizance of military matters, and who was judge of the court of chivalry.

In the United States, a constable is, generally, a petty officer, whose duties include a limited judicial power as conservator of the peace, a ministerial power for the service of writs, etc., and some other duties not strictly referable to either of these heads.

Constable, Archibald, a Scotch publisher; born in 1774. He was the original publisher of the "Edinburgh Review," the poems of Sir Walter Scott, the "Waverley Novels," the "Supplement to the Encyclopædia Britannica," and other valuable works. In 1825 he projected the well-known series of works, "Constable's Miscellany." In 1826, however, the firm was compelled to stop payment with liabilities exceeding $1,250.000. Sir Walter Scott, who was heavily involved, practically sacrificed his life in the endeavor to meet his creditors. Constable himself did not long survive his misfortunes, as he died July 21, 1827.

Constable, John, an English landscape painter, born in Suffolk, June 11, 1776. Mr. Henry Marquand has presented two fine pictures by him to the Metropolitan Museum of Art in New York City. Constable died in London, March 30, 1837.

Constable of Bourbon. See BOURBON, CHARLES, DUKE OF.

Constance, city and lake port of Germany, in the grand-duchy of Baden, occupying the only territory belonging to Germany on the S. side of the Lake of Constance and about 35 miles N. E. of Zurich. Constance is said to have been founded in 378 A. D. by Constantius Chlorus as a bulwark against the Alemanni. In the Middle Ages, when it reached the height of its prosperity, it was frequently called Kostnitz. It was annexed to the Austrian dominions in 1549, and to Baden in 1805. Pop. 21,300.

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